THE FOURTH YEARBOOK

OF THE

NATIONAL SOCIETY FOR THE SCIENTIFIC STUDY OF EDUCATION

PART I

THE EDUCATION AND TRAINING OF SECONDARY TEACHERS

BY

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EDITED BY

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SECRETARY OF THE NATIONAL SOCIETY

MEETINGS FOR THE DISCUSSION OF THIS YEARBOOK WILL BE HELD AT 4:00 P. M. MONDAY AND WEDNESDAY, FEBRUARY 27, AND MARCH 1, 1905 THE PLANKINGTON HOTEL, MILWAUKEE

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ANNOUNCEMENTS TO ACTIVE MEMBERS

A great deal of interest is awakened in the question of preparing secondary teachers. It is hoped that we shall get something thoroughly good and helpful from the discussion and conferences at Milwaukee.

One characteristic of our Society should be clear, frank discussion, vigorous and progressive. This is impossible unless the *Yearbook* is studied before the meetings.

Several rules that the experience of the Society has led it to adopt will be applied by the presiding officer whenever necessary or advisable; for instance, none but active members have the privilege of discussion in meetings except through the courtesy of the Society or its officers; preference is given to members who have read the *Yearbook;* it is the right and duty of the presiding officer to hold the discussion to the topic under consideration; he may divide the question and take up the topics in a progressive order; also the presiding officer may in advance or at the meeting invite guests to participate in discussion.

At the Wednesday session a few ten-minute reports setting forth the problems and indicating the progress of work that members are specifically engaged upon will be received. If it should prove advisable, and acceptable to all concerned, these reports may be presented at an extra session for that purpose. This is one of the ways by which intelligence and interest concerning what members are doing may be promoted.

Arrangements have been made to bring together at an informal dinner Wednesday evening as many members as possible. For this purpose a part of the dining-hall at the Plankington Hotel will be set aside at the regular dining hour, but with special service. To those who are registered at the Plankington on the American plan there will be no extra cost; the cost to others will be $1.00 a plate.

All wishing to join in this should notify President Charles McKenny, Milwaukee, or the Secretary.

The business meeting will take place at the Wednesday session. The items of business so far as known now are:

Report of the Secretary-Treasurer.

Election of officers.

Better organization of the society for work.

Shall the National Society affiliate with the American Association for the Advancement of Science?

Proposal of topics for the next two years. Each member ought to suggest a topic and the person who can deal with it ably.

Election of active members. Active members are requested to hand in their nominations for membership as early as possible. The time has come when new members should be selected with care.

All the sessions will be held in the Arcade of the Plankington Hotel.

It is undertsood that membership continues until a member notifies the Secretary of withdrawal.

Any change of address or official position should be reported promptly. Otherwise, Yearbooks and communications will fail to reach members.

Now and hereafter membership dues are payable to the Secretary-Treasurer.

M. J. HOLMES,
Secretary.

CONTENTS

INTRODUCTION

Our secondary schools, in accordance with the law of all institutional genesis, have been called into existence by certain needs of the people. The vigorous and rapid growth of these schools during the last few years has awakened a keen and serious sense of their great and increasing meaning in local and national life. But it is already clear that though these schools are loaded with promise of valuable contribution to the national well-being, they can never render their possible maximum of service without the aid of a larger proportion of happily adapted and especially prepared teachers. The importance of this thought has no doubt led the National Society to select the present subject for study.

The two central ideas which are both starting-point and culmination of thought in the study are (1) what constitutes the ideal secondary teacher? and (2) by what selective process and preparation can we best promote the realization of this ideal? But to give proper logical setting and to reveal more clearly the large meaning of the central questions the general subject has been divided as follows:

Division I is a historical sketch which seeks to trace in brief compass the genesis of our secondary schools in their relation to the life of the people. With a renewed sense of the vital importance of our secondary schools the thought then moves on to

Division II, which, recognizing that the most important factor in enabling these schools to yield their maximum of value, presents the opinions of five experienced secondary-school men as to what constitutes the ideal secondary teacher.

Division III. To get some idea of the extent to which the actual secondary teacher of today comes up to the standard called for in the ideal, this division examines the present status and personnel of secondary teachers in the United States.

Division IV examines the present provision for the preparation of secondary teachers made by universities, normal schools, and colleges; it considers the nature of the preparation and the extent to which these schools are meeting the demand for more and better-prepared teachers for our secondary schools; and lastly it presents

a concensus of opinion as to how universities and normal schools can improve in this matter of preparing secondary teachers.

Division V. Finally, the present status of the whole problem and need of more and better-prepared high-school teachers demands that the universities and normal schools come to a sense of their common ground in this work, and consider what each can do best, and seek a way to improve. Therefore Division V sets forth the relative advantages and limitations of universities and normal schools in preparing secondary teachers in so far as a concensus of opinion can do this. This presentation of opinion neither implies nor reveals controversy between normal schools and universities. In some cases it shows the need of better mutual understanding and appreciation concerning their relation to the common problem of furnishing well-prepared teachers for our schools. The central idea is not universities *vs.* normal schools, but universities *and* normal schools in their relation to the education of teachers.

With the study of the general question thus opened up, the plan looks forward to the appointment of one or more representative committees to carry on the study and report what seems necessary and best for the several classes of schools concerned to attempt in the preparation of secondary teachers.

THE FOURTH YEARBOOK

I

THE GENESIS OF AMERICAN SECONDARY SCHOOLS IN THEIR RELATION TO THE LIFE OF THE PEOPLE[1]

EDWARD C. ELLIOTT
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The development of American education contains the conscious expression of a people ever seeking to realize within themselves the significance of human freedom and of national unity. It discloses the process of the social ideals becoming institutionalized, thereby serving to perpetuate the spirit of a true democracy and to attain to advancing degrees of social efficiency.

Each of the tripartite divisions of our educational system — elementary, secondary, and higher — has had, as it were, a distinct life-history; each has exhibited continuous variation of form, structure, and function in response to advancing social needs; each has served in its own way to contribute to the larger social purpose. The history of our secondary schools affords the best evidence of this evolution of an educational activity in the process of social accommodation. In one form or another they have stood throughout almost three centuries, and have reflected, more truly than elementary or higher schools, the social condition and the progressive stages of our people toward liberty, efficiency, and toleration.

The purpose of this paper is to sketch, so far as can be done within the brief limits assigned, the development of secondary education in our country with particular reference, (1) to the connection between

[1] For much of the material contained in this paper, the author is indebted to that invaluable work of Professor Elmer E. Brown, *The Making of Our Middle Schools*, which places every student of any phase of our secondary education under indebtedness. Professor Paul Monroe, of the Teachers College, Columbia University, has also given many valuable suggestions and has rendered much timely assistance in its preparation.

the schools and the social life of the people, and (2) to the qualifications required of the teachers.

The origin of our secondary schools is to be found in the classical renaissance of the fifteenth and sixteenth centuries. The humanistic educational tendencies resulting therefrom were transplanted by the early American settlers to all of the thirteen colonies, save one, and by them elaborated into a distinct type of schools, though, for a century and a half, with scarcely any modifications on account of the novel conditions. During the latter half of the eighteenth century, coincident with the radical social and political changes of that period, a new type of institution sprang up, very similar to a new type of secondary schools in Europe, but far more responsive to and expressive of American conditions than had been the previous schools. These schools dominated until the Civil-War period, by which time our present secondary schools, which first appeared early in the second quarter of the century, became numerous enough to indicate their superiority. This third type of secondary schools is wholly an American product, and one expressive of the needs and the ideals of our civilization. These same general periods of development are evident in the history of elementary and higher education as well, but they are more clearly marked in that intervening stage, now usually designated as secondary education.

THE GRAMMAR-SCHOOL PERIOD

The typical secondary school, practically the only school of this rank during the colonial period, was the Latin grammar school, more frequently known as the grammar school. These schools were similar to the public schools of England and the early gymnasia of the Teutonic people of the continent. An outgrowth of the renaissance of the fifteenth and sixteenth centuries, these classical schools had been seized upon by both Protestant and Roman Catholic communities as the chief instrument for combating ignorance among their own communions and heresy among those outside. It is but natural that the American settlers, as they transplanted other European institutions, should transplant these. And as such schools had a peculiar religious significance in Europe, it was but natural also that they should be most thoroughly developed in those colonies where the religious motive was a prominent one.

In the consideration of the question at hand, it must be kept in

mind that our conclusions must be based largely upon evidence of an indirect, rather than of a direct, kind. In the absence of settled social conditions, or of a recognized common social ideal, each colony provided grammar schools and teachers thereof in a way best adapted to immediate needs. Choice of a teacher was dependent upon religious or local prejudice. Professional standards of teachers were judged more from results than from academic qualifications. In general, the problem was to secure a teacher — a good one, if possible; a poor one, if need be; but at any rate, a teacher. The ambition of these early colonists was for schools which would guarantee to the children and their children's children the training necessary to the stability of the church and commonwealth. The new ideals of the new world had been too dearly bought to permit them to die out for want of nourishment.

As the earliest and best of its type we may accept the Boston Latin School as throwing some light upon the character of the colonial schoolmaster. What may be said as to it will apply with equal force to the other and numerous schools of like grade established by those enthusiastic Puritans.

The purpose of this school, practically from the time of its establishment, was to prepare boys for entrance to Harvard College. The professed aim of Harvard was to raise up a new generation of ministers. The interests of the Latin school were the interests of the college; the condition of one reflected the condition of the other. This early Massachusetts school system was clearly intended to train the leaders of the ecclesiastical commonwealth.

With its English inheritance of form, function, and ideals the early masters of the Boston Latin School possessed the personal qualifications and that scholastic preparation which had held for generations in the mother-country — the classical education of the English universities. A knowledge of Latin and Greek was the prime requisite, more Latin than Greek, for Latin practically comprehended the curriculum of this grammar school, not only when Ezekiel Cheever was preparing his boys for entrance to Harvard College, but for a century to follow.

When any scholar is able to understand Tully, or such like Classicall Latine Author *Extempore,* and make and speake true Latine in Verse and Prose, *sus ut aiunt Marte;* and decline perfectly the paradigm's of *Nounes,* and Verbes in the Greek tongue; let him then and not before be capable of admission into the Colledge.

Of Elijah Corlett's grammar school in Cambridge it is recorded:

And by the side of the Colledge a faire *grammar Schoole,* for the training up of young Schollars, and fitting them for *Academicall Learning,* that still as they are judged ripe, they may be received into the Colledge of this Schoole. Master *Corlet* is the Mr. who has very well approved himselfe for his abilities, dexterity and painfulnesse in teaching and education of the youth under him.[2]

Later when a new generation of teachers came to take the place of Cheever, Corlett, and their prototypes, we find the graduate of Harvard College — the first product of the new intellectual life — recognized as fit to direct the education of those preparing to follow in the same path as he himself had traveled. The new master of the grammar school was the college graduate who viewed the careers of his pupils through the glasses fitted by his own ecclesiastical preparation.

Mr. Martin in his work on the Massachusetts public-school system has told us, and with full justification, that

The teachers of the earlier schools were men, and men of no ordinary capacity and experience. Some of them had been clergymen. All were scholars, and most of them had been educated at old Cambridge. As soon as the infant college at new Cambridge began to bear fruit, to the honor of the pious Harvard, its graduates found places in the schools as well as in the churches.[3]

And further,

It would be too much to say that all the early masters were like Cheever, but they were all scholarly after the fashion of the times, and all deeply imbued with that religious spirit which characterized the Puritan epoch. Their whole training tended to this. Their college studies were the studies of the divinity school. There was some mathematics — arithmetic and geometry, some natural science — physics and astronomy. All the rest was along the line of the humanities. Grammar and logic and rhetoric; politics and ethics; Chaldee, Hebrew, and Syriac; biblical and catechetical divinity — all this wealth of learning was at the service of the children.[4]

Those early schoolmasters of New England who have come down to us by reason of their dominating personality scarcely represent the true type. Our best evidence concerning the typical schoolmaster — indirect though it may be — must be drawn from the early statutes

[2] *New England's First Fruits;* quoted by Brown in *The Making of Our Middle Schools,* p. 40.

[3] Martin, *Evolution of the Massachusetts Public School System,* p. 61.

[4] *Loc cit.,* p. 63.

passed to fix a professional standard. In how far these legal provisions were effective it would be well nigh impossible to indicate. They are presented as evidence, and their value may be determined from their several common elements.

In the famous Massachusetts Statute of 1647, the following appears:

. . . . and it is forthwith ordered that where any town shall increase to the number of 100 families or householders, they shall set up a grammar school, the master thereof being able to instruct youth so far as they may be fitted for the university, ...[5]

The resolution of the General Court adopted in 1654 on the occasion of the enforced resignation of President Dunster, of Harvard, owing to his stand taken on infant baptism runs:

For as much as it greatly concerns the welfare of this country that the youth thereof be educated, not only in good literature, but sound doctrine, this Court doth therefore commend it to the serious consideration and special care of the overseers of the College and the selectmen in the towns, not to admit or suffer any such to be continued in the office or place of teaching, educating or instructing of youth or child in the college or schools that have manifested themselves unsound in the faith or scandalous in their lives, and not giving due satisfaction according to the rules of Christ.[6]

Chapter 26 of the laws passed by the first Provincial Assembly of the Massachusetts Bay Colony in 1691 re-enacted that every town of one hundred families should set up a grammar school and procure for it a "discreet person of good conversation, well instructed in the tongues."

The following act of the Massachusetts legislature in 1701 is said to be the first compulsory certification of teachers known in our history.

Every grammar-school master to be approved by the minister of the town, and the ministers of the two next adjacent towns, or any two of them by certificate under their hands. And be it further enacted, that no minister of any town shall be deemed, held or accepted to be the schoolmaster of such town within the intent of the law.[7]

[5] Clews, *Educational Legislation and Administration of the Colonial Governments*, p. 62.

[6] *Records of the Governor and Company of the Massachusetts Bay in New England*, Vol. IV, Pt. 1, pp. 182, 183. Quoted by Clews, *op. cit.*, p. 21.

[7] *The Acts and Resolves of the Province of Massachusetts Bay*, Vol. I, p. 470. Quoted by Clews, *op. cit.*, p. 65.

The preceding paragraphs have had to do specifically with the grammar schools of Massachusetts. Not only is our information as to the early schools of this state most reliable and complete, but the example set by her in her educational plan was imitated to a greater or less degree in the other colonies with an educational history. Her story is the composite story of all. The other colonies had grammar schools, fashioned in the same mold as those of Massachusetts. They had grammar-school masters whose works, if not biographies, fill an important place in our early educational history. However, the study of individuals is not broad enough for our present purpose. We must turn to the legislation of the different colonies if we are to gain a glimpse of the broader social endeavors to set a professional qualification for grammar-school teachers.

When the matter of a colony grammar school was being agitated in New Haven in 1660 we find that a schoolmaster was to be provided to teach Latin, Greek, and Hebrew, "so far as shall be necessary to prepare them [the scholars] for the college." [8]

In 1672 the General Court of the colony of Connecticut revised the Code of 1650, with the following provision for secondary education, "That in every county town there shall be set up and kept a grammar school, for the use of the county [the colony had been divided into four counties] the master thereof being able to instruct youths so far as they may be fitted for the college." [9]

In 1690, the General Court of the same colony

considering the necessity and great advantage of good literature, do order and appoint that there shall be two free schools kept and maintained in this colony, for the teaching of all such children as shall come there, after they can first read the psalter, to teach such reading, writing, arithmetic, the Latin and Greek tongues; the one at Hartford, and the other at New Haven, the masters whereof shall be chosen by the magistrates and ministers of the said County, and shall be inspected and again displaced by them if they see cause. . . . . [10]

And thus, through frequent legislation, can be traced the effort of the colony of Connecticut to provide efficiently equipped secondary teachers and to control the character of this teaching. The evidence in the other colonies, while not so voluminous, is of the same general character. One typical example will serve our purpose here.

[8] Clews, *op. cit.*, p. 85.

[9] *Ibid.*, p. 93.

[10] *Conn. Col. Records*, Vol. IV, pp. 30, 31; Clews, *op. cit.*, p. 96.

In 1752, the legislature of Virginia passed an act for incorporating the borough of Norfolk. The clause of this act concerning the qualifications of the schoolmaster is as follows:

and to provide and agree with an able master for the said school, capable to teach the Greek and Latin tongues, which said master, before he be received or admitted to keep school, shall undergo an examination before the masters of the College of William and Mary, and the minister of Elizabeth parish, for the time being, and produce a certificate of his capacity, and also a license from the Governor, or Commander-in-Chief of this dominion, for the time being, agreeable to his majesty's instructions.[11]

The essential feature of this act, the examination by the minister of the parish, is repeated frequently in the later legislation of the colony.

Summing up, then, we have ample evidence from many sources, indirect though they may be, to justify the conclusion that, in the main, the Latin grammar schools were provided with teachers capable of preparing boys for entrance to the colonial colleges. In many, we might not say the majority, of cases these teachers were educated in the narrowly classical curriculum of the English or Scotch universities, or of the colonial collegiate institutions. Graduation does not appear to have been a prerequisite. "Knowledge of the tongues" seems to have been capable of the widest variety of interpretation. In all of the colonies ecclesiastical control and examination were exercised over the license to teach — in New England, by the local ministers; in the other colonies, nominally by the Bishop of London.

The schoolmasters of the colonial period may be roughly divided into three classes. There were a few men of scholarly preparation who made teaching the work of their lives, and kept up the best traditions of the free-school masters of Old England — of Mulcaster and Brinsley and Charles Hoole. Then there were young clergymen and ministers of non-Episcopalian denominations recently from college, who taught school while waiting for a call to the pastoral office. Finally there was a miscellaneous lot of adventurers, indented servants, educated rogues, and the like, all either mentally or morally incompetent, or both, who taught school only to keep from starving.[12]

In spite of honest efforts to maintain the old professional standards, through legislation and ecclesiastical supervision, we find

[11] *Official Records of Robert Dinwiddie*, Vol. VI, p. 265; Clews, *op. cit.*, p. 345.

[12] Brown, *The Making of Our Middle Schools*, p. 110.

even before the Revolution, a decline in the character of the Latin school. Local interest declined and local support diminished. The time seemed ripe for a new force to make itself felt in American education.

It may seem that too much attention has here been given to these colonial grammar schools. Nevertheless, a comparatively full treatment has been deemed necessary in order to obtain a fuller appreciation of the standards of the early period, standards which prevailed in reality, if not in name, for almost a century following the Revolution; and further, because legislative evidence concerning the qualification and preparation of teachers during the following period is very much less abundant, practically absent, for the states did little to foster the new type of schools.

THE ACADEMY PERIOD

From the Revolution to the Civil War our educational activity, in common with our political and social life in general, was characterized by decentralization in organization, an individualism in motive and in action, and a democratization of public opinion. When the democratic sentiment became fully conscious of itself during the Jacksonian period, there developed a realization that its needs might be more readily accomplished by a greater centralization of power and some restriction upon that individualism that allowed certain classes or individuals to obtain control of social opportunities. Hence from this period of about 1840 there is a marked tendency toward greater centralization in government, a more complete legal control of private activity, and an effort to prevent the control of opportunity through unrestricted private initiative which in educational activities is only fully revealed after the Civil War.

The characteristic features of this middle period in our educational history are quite clearly indicated in the condition of the elementary schools. Here the district school was typical and illustrated all of these general features more obviously than any other phase of educational life. Superseding the old town or township schools, supported and controlled by a comparatively large local unit, and acquiring conformity to some general standards of recognized integrity, the district school represented the extreme of decentralization, in that it gave the control of the school into the hands of the smallest possible local unit; the extreme of individualism, in that each locality con-

trolled, without any general supervision, the character and content of the work of its own school, and in that each pupil even determined his own choice of subjects, or the method of study of the subjects by the books he might be able to bring to the school; and the extreme of democracy, in that little emphasis was placed upon any but the most rudimentary subjects, and the entire tendency was thus to reduce all to a common level and that a low one.

In a similar way, the secondary school of the period expressed very clearly this response of education to changed social conditions. The old Latin grammar schools with their public support and central control, rigid and restricted curriculum, and class or professional patronage, were replaced very rapidly and generally by the academy. In a very complete way the academies were an expression of decentralized control. For the most part they were purely private, or at best quasi-public, institutions: that is they were corporations of persons either in their private capacity or as representatives of certain interests, either denominational or local. Save in a few states, and those near the middle of the century, the state obtained no supervisory control over them. In these few cases, as in Maryland and New York, there was an attempt to build up state systems, through state supplementary subsidies, that carried with it the right to inspect or to examine pupils, and to make certain specifications concerning tuition rates. In other cases the state limited its assistance to the provision of a building on condition that the locality would supply the teaching staff and support the school. The great majority of such schools, however, were purely private institutions, and the function of the state, even when it did interfere, was for the most part limited to the giving of assistance.

Thus the academy was an expression of individualism and of the new democracy; it was an expression of local effort; it responded to local needs, its activities and its object were determined by local ideas. Hence there was the greatest variety of conditions, with regard to support, with regard to subjects taught, with regard to standards of attainment, and with regard to extent of influence. Since the academy offered to teach almost any subject desired by a pupil — in this respect making a great divergence from the preceding type of secondary schools — and the established curricula prevented the widest variation in different localities, it gave fullest expression to individualism. Since the academy was very generally

supported by a tuition fee of substantial amount, it was supposed to be an expression of democracy in that it allowed each individual to determine his own educational opportunities and attainments. But it was soon made evident that while the academy prepared for a very much wider scope of social activity on the part of its graduates than did the old grammar school, and hence was not so much of an institution for the one or at most two learned professions, it was, on the other hand, quite as distinctly a class institution; for it tended, as did the private schools supplementary to the inefficient district schools and as did the provisions for pauper children in district schools, to draw sharp class lines and to restrict the better educational opportunities to the favored few.

The fact that the academies were the outgrowth of changed social conditions and were thoroughly expressive of the life and the ideas of the people of the time is indicated most clearly by the development in the curriculum.

Before the Revolution this new type of secondary school began to appear in response to new demands which the old Latin grammar schools did not, and could not, meet. The new social conditions brought about by the expanding commercial, industrial, and political conditions of the latter half of the eighteenth century made necessary a training for which the curriculum of the old grammar school was but ill suited. The chief business of the old grammar school had continued to be the preparation of boys for college; the chief business of the college was still preparation of men for the ministry, with shadowy beginnings of the later professions of law and medicine. But the curriculum of the college remained as it had been crystallized in its ecclesiastical medium of a century preceding. Down to 1800 the leading American colleges demanded of their entering freshmen, Latin, Greek, and a little arithmetic. In Harvard, geography was not added until 1807; English grammar, 1819; algebra, 1820; geometry, 1844; and ancient history, 1847.

A time was coming when people were to demand something beyond the classical crust for the education of their children; when boys were to be educated apart from collegiate predestination; when girls as well as boys were to share in the advantages of a broad education. Hence it is not surprising to find private institutions, later subsidized and chartered by the state, appearing, which emphasized the practical aspect of education by giving instruction in arith-

metic, accounting, writing, English grammar, literature, science, surveying, navigation, etc., in addition to Latin and Greek required for admission to college. Apart from the desire for better educational facilities the spread of the academy movement was an expression of a people to be freed, in the conduct of their educational institutions, from the narrow ecclesiastical and class control which had been growing up previous to the Revolution. A broader curriculum, secondary instruction for both boys and girls, apart from preparation for college, and secular private control then seem to be the characteristics emphasized by the academy education. Each of these elements may be said to have affected the qualification and preparation of the teachers in this class of institutions. It is, however, exceedingly difficult to generalize in this respect. Far more than the Latin grammar school did the academy type of secondary school vary from a fixed standard. There were academies of high grade and of low grade; those endowed with high public purpose and those dominated by a low commercial motive. Owing to their system of private control, the professional standards of the teachers were to be graded by the standards of the school.

If any generalization is to be permitted it may be said that in the *best* academies, the teachers secured their preparation, as did those of the best of the old Latin schools, in the colleges of the day. Even where the curriculum of the academy was broader than that of the college, there were men of unusual genius exhibiting that comprehensive intellectual grasp which enabled them to infuse light and enthusiasm into the new instruction. We find the following purposes expressed in the constitution of the first chartered academy in New England — Phillips Andover:

to lay the foundations of a public free SCHOOL or ACADEMY for the purpose of instructing youth, not only in English and Latin Grammar, Writing, Arithmetic, and those sciences wherein they are commonly taught; but more especially to learn them the GREAT END AND REAL BUSINESS OF LIVING. . . . . It is again declared that the *first* and *principal* object of this institution is the promotion of true PIETY and VIRTUE; the *second,* instruction in the English, Latin and Greek Languages, together with Writing, Arithmetic, Music, and the Art of Speaking; the *third,* practical geometry, Logic and Geography; and the *fourth,* such matters of the liberal Arts and Sciences or Languages as opportunity and ability may hereafter admit, and as the TRUSTEES shall direct;[13]

[13] Brown, *op. cit.,* p. 195.

and who will gainsay that such an institution, with such a purpose, did not demand and secure teachers of the most liberal training of their time. We might almost say, judging from the work and character of this particular school, that the teachers were far above their training.

On the other hand, we can hardly gauge the professional standard of the academy teacher by such rare types as Adams and Taylor of Phillips Andover, or Dwight of Greenfield Hill. In very many of the academies of the lesser sort the teachers were educated but little above the limited requirements of their tasks. The most that can be said of these institutions is that there were no general requirements whatever; that each institution exercised its own choice in determining the qualifications possessed by the teacher; that these qualifications were more largely of a peculiarly personal nature and related more to strength and attractiveness of personality than in either the preceding or succeeding periods, since the influence of the teacher and of the school was exerted more largely through the personal character of the teacher than through his knowledge or through the nature of the subject taught.

One or two other facts of vital importance should be mentioned here. The attendance of pupils upon the old Latin grammar schools was always very small. These schools were one-teacher schools. Just before the Revolution the pressure for a more practical kind of instruction had led to the employment in many of them of an assistant to teach a meager quantity of writing, arithmetic, accounting. The core of the instruction was, however, the classics taught by the master. With the coming of the academies with their highly differentiated curricula we have the *beginnings* of the need of teachers capable of devoting themselves to specialized groups of subjects.

Two other relationships of a general character between the academies and the teaching profession are to be noted: first, in relation to the elementary schools, that a very important function of the academy was to give a broader preparation to the elementary-school teacher and to raise the standards of the teaching profession in this grade very materially; second, through the broader curriculum of the academy, the curriculum of the college was reacted upon and a much more liberal policy than had hitherto prevailed was here initiated. This response, to a considerable extent, was for the purpose of pro-

viding an appropriate preparation for secondary teachers, but it never reached any conscious formulation in definite requirements.

Further, the academy movement marks the beginning of secondary education for women, and the appearance of women in the field of secondary teaching. The academy may be said to have contained the germ from which two types of American schools have developed — the normal school and the women's college, both of which have been of no mean influence in the projection of higher standards for secondary teachers.

THE HIGH-SCHOOL PERIOD

During the second quarter of the century a new type of secondary schools appeared, which was to become a vigorous rival of the academy before the opening of the Civil War, which was to surpass the academy in importance by the close of the third quarter of the century, and which has now become, save in certain limited regions of the East and South, where traditions are strong and certain social conditions prevail that do not obtain in other portions of the country, practically our only secondary school. The transition from the academy was made in some regions by the higher schools conducted on the monitorial or Lancasterian system which, while they continued to charge a tuition, were supported by a public society and offered education at a merely nominal expense; in other regions by the free academies, which, as the name indicates, were but the old academies supported by sufficient endowment or local subsidy to abstain from all tuition requirements; and in a few of the larger cities, by the city colleges, or free grammar schools, which performed approximately the same function for the larger number of city youth.

The high school differs radically from the academy in two important respects: first, it is supported and controlled by the government, primarily by the municipal, though often assisted by the state, and hence is under a more centralized control and is far more amenable to public control; second, it charges no tuition, but offers a course of study, at first not as broad as that of the academy, but tending to become so, absolutely free to all classes in the community, and hence is absolutely democratic.

The high school is but the culmination of the free public-school system and is the outgrowth of the same economic and political conditions and the same social ideas. Though the high-school develop-

ment came somewhat later than the free-school movement, it is to be remembered in this connection that the schools were not generally made free until near the middle of the century, and that tuition rates were not abandoned in New York state until 1867. In this respect especially the high school is a fuller expression of democracy than was the academy; and while in some features it seems to be less an expression of the individualism of the people, in that it is under state supervision, in reality it is a much more complete expression of that individuality, for though always an expression of local opinion through corporate capacity, by that very fact it is more fully expressive and more readily responsive than could be an institution controlled by private persons or by trustees representing private, sectarian, or class interests. In this respect it deserves the term so frequently applied, "the college of the people."

Through its curriculum, now much broader than at first, it becomes expressive of the developing or changing interests of the people, especially those of an economic and commercial character. Through the plan of election of studies, it provides for the individuality of the pupil, and the personal interests of its patrons, even more fully than could the academy. Through the improved methods of study and of teaching, it keeps abreast of the developing scientific and technical knowledge, and of the art of teaching. It is only in regard to the one topic that the future papers of this series deal with, that of the standards of qualification of its teachers, that little advance has been made, until quite recently, and concerning which few generalizations can be made.

The English High School of Boston is regarded as the pioneer of the high-school movement in this country.[14] In the general plan of its organization as adopted January 15, 1821, we find the following clause: "Eighthly, That it is required of all the Masters and Ushers as a necessary qualification that they shall have been regularly educated at some University."[15]

This provision in the regulations of our first public high school seems to embody the essential qualifications demanded of secondary-school teachers during the remainder of the century. While it cannot be gainsaid that many of our high schools of the present generation have not lived up to this standard, it must be admitted that this has been the ideal attempted by the secondary schools worthy of the

[14] Brown, *op. cit.*, p. 297. [15] *Ibid.*, p. 300.

name. With the growth of state systems of education, especially since the Civil War, we have witnessed the extension of state control over the licensing of the teacher. The building up in each state of an elaborate plan of normal schools has been effective in maintaining and raising the professional standard of elementary-school teachers. In but few states, however, has the system of licensing secondary-school teachers gone beyond the requirements of the elementary school. Custom and nominal local requirements have not extended to the fixing of any higher professional standard for secondary-school teachers than that indicated by college graduation. This of itself implies a vastly broader training today than fifty years ago. Then again, the founding of our higher state institutions, especially in the central West, with departments of pedagogy has given an impetus to a special professional preparation of secondary-school teachers. The very heterogeneous condition of the present, with which the subsequent papers deal, and which makes it impossible to draw any general conclusion of any wide validity, is due to the two general lines through which the high schools have developed. In many states the high school developed simply as a part of the common-school system, without any special legislative authorization, but justifying itself against local sentiment, which in many cases looked upon all higher education as undemocratic and as a betrayal of the interests of the people, by judicial decision. In such cases when the high school only received recognition tardily, if at all, there could be, as a matter of course, no special qualifications for high-school teachers other than those required of common-school teachers. As a result then in such states qualifications are determined largely by the local boards, which may or may not demand an examination in subjects other than those taught in the elementary schools. This allows far greater discretion upon the part of local boards than is true in general of elementary teachers, and while one may say the general requirements are those of college graduation, it is too evident that such standards are in many instances purely nominal, though, on the other hand, in many large cities, the same local freedom permits the enforcement of yet higher standards.

In other states, high schools have developed as specific institutions of a secondary grade, fostered by grants from the commonwealth government. Such states may require in return only a test of work accomplished by the student; but most generally have required that

the teachers of such schools shall conform to requirements established by the state superintendent or board of public instruction. In such states the requirement of qualifications equivalent to college graduation can and are usually required in actuality.

Some few of the western states, wherein this control over the secondary teacher has been made as complete as that over the elementary teacher, have taken an important step in advance, even of this; and believing that even the credentials of a college must bear examination, require that the secondary teacher in all state schools shall conform to requirements established by the state universities through their departments of pedagogy.

This has introduced another qualification, as important as it is novel; namely, that the teacher should evidence some knowledge of the science of teaching and give some evidence of skill in the art of teaching. But in the vast majority of states, even in those that have definite standards of qualification for secondary teachers, knowledge of the subject, which is the primary requirement, is also the sole requirement.

No problem of the many presented by secondary education is of greater importance than this of determining the nature of some general qualifications of the teacher and the definite establishment of these by law.

II

WHAT CONSTITUTES THE IDEAL SECONDARY TEACHER?

REUBEN POST HALLECK, Principal Boys' High School, Louisville, Ky.
J. STANLEY BROWN, Superintendent Township High School, Joliet, Ill.
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Questions and theses arising from this division of the study:

1. Is it important that the number of high-school teachers should be about equally proportioned between the sexes? If so how can this be done?

2. There is serious need of a more effective selective process by which a larger proportion of teachers of choice personality and adequate scholarship will be secured for public high schools.

3. With the best that schools can do, the larger and more vital preparation of the teacher comes after experience begins: therefore, for practical reasons alone, it is the duty of superintendents and school boards to insure opportunity for progressive improvement on the part of their teachers.

4. It seems to be the unanimous opinion that a high-school teacher should be primarily devoted to the welfare of his pupils rather than to the claims of a subject. How can this attitude and interest be insured in case of an intense specialist in one of the academic branches?

REUBEN POST HALLECK
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The personality of the secondary teacher.— I am here leaving to others the scholarship requirements of the secondary teacher. For years it has been my habit to study the personality of secondary teachers and to recommend them largely in terms of their personality.

Sympathy.— First, it is unusually necessary for secondary teachers to have a sympathetic personality. Adolescence craves sympathy more than any preceding age. The teacher must feel with the pupil, must comprehend the pupil by an intuitive lightning flash of sympathy, which ought to light up every dark schoolroom. With

intelligent sympathy a teacher can do anything in reason with adolescents. Without sympathy he may develop such a spirit of contrariness in them that they will walk to the block and lay down their intellectual heads before they will study for him. Witness the number of those who leave school because they begin the downward path by failure in some one subject in which no sympathetic effort is made to reach them.

Imagination.— In the second place, an ideal secondary teacher must have a broad and vivid imagination. It ought to be understood by every teacher as a psychological truism that sympathy cannot be wide or deep or penetrative without imagination. Since the experience of two people cannot be exactly the same, they can cross the stream which separates them only by the bridge which imagination furnishes. The teacher is striking in the dark if he cannot frequently look at the world through the eyes of the adolescent. The adolescent is of imagination all compact. Things prosaic to us suggest to him an unexplored new world of enchantment. In the Elizabethan age the imagination was considered more necessary than the reason to interpret the facts of life. A later time was to usher in the cold juiceless age of reason and then there was decadence. The ideal teacher of adolescents must be an Elizabethan. His world must be at least occasionally illumined with the light that never was on land or sea.

Humor.— In the third place, an ideal secondary teacher must have a sense of humor. This will deter him from over-stressing certain things and from over-emphasis in general. A sense of humor will keep a teacher from becoming shrill. A teacher should develop the Shakespearean capacity for being easily bored. Adolescents have this capacity in a remarkable degree. Their teacher should not let them outclass him in this respect. Experiments have proved that excessive repetition of the same presentation tends to develop a comatose or a hypnotic condition.

Moral character.— In the fourth place, the teacher should have character. By this I mean simply the disposition to do his duty one hundred times out of one hundred without exception. I am content to take a teacher of this type, even if he is imperfectly developed along some intellectual line. I know that the character will force sufficient intellectual development. I am never sure that mere intellect will develop character.

Youthfulness.— In the fifth place, youth is a fine quality for the teacher of adolescents. The majority of such teachers probably begin to decline from their zenith after thirty-five. The world of the adolescent tends to grow remote and the sympathies to be narrowed after that age. I have for some time noticed that parents who wish certain teachers to make an appeal to their sons frequently select one of the younger body of instructors who has had some athletic experiences in common with the boy. In everything except administration, it is probable that in the majority of cases a teacher at thirty-five is a better adolescent teacher than the same teacher at forty-five. Shakespeare remained an adolescent until death, but the majority are not in his class. Enthusiasm and tireless energy are qualities absolutely necessary for the teacher of adolescents, and these are precisely the qualities most likely to diminish with age.

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Personal quality and social efficiency.— The ideal teacher must possess a great soul. The mundane setting of every great soul is physical, and so it comes that the fundamental quality of a teacher's personality must be physical. Good birth, careful training in childhood and youth, good health, good habits, a well-balanced mind, an optimistic nature, well-regulated appetites are some of the possessions of a teacher with the most effective personality. It is not essential that the ideal teacher should exemplify either extreme in avoirdupois, but it is accepted without argument that personal magnetism, culture and attractiveness of character are observed, admired and understood without verbal expression. Simple, unaffected neatness in the appearance and dress of the teacher can, in my judgment, be relied upon to produce the most lasting effect on both fellow-teachers and students.

This teacher must have an intense sympathy with adolescents, and a permanent and emphatic interest in them. No one can teach a high-school boy to the best advantage, who does not have an abiding consciousness of that boy, his needs, his traits, his environments and all other things touching his life. The way of approach to the teacher ought to be made easy by him in leading the youth, step by step, to see that his highest interests are subserved. The door to such an

approach ought always to be ajar, and the way should grow more and more familiar by use. By this means can the indispensable personal relations between the ideal teacher and the student be preserved.

The ideal teacher must be democratic in spirit and dignified in bearing, in order that his life, his teaching, and his magisterial product may promote the highest welfare of the government of which he forms a part. Upon this teacher, in largest measure, rests the responsibility of keeping forever the spirit of democracy, because from almost all other institutions democracy has come and gone, or has come and is going. If governments by the people are to be preserved, schools for the whole people must be encouraged, enlarged, dignified, and kept democratic. In preserving all these things so dear, the personality of the teacher is the paramount factor.

The ideal teacher must take an active interest in all civic and ecclesiastical questions tending to mold or crystallize community sentiment. The influence of the teacher ought to overshadow the community in which he lives, and ought to be a guiding power in directing scholastic and municipal life. Whatever makes for civic, ecclesiastical or municipal improvement may properly demand a share of the teacher's attention.

Scholarship.— The second quality of the ideal teacher concerns scholarship. It will be accepted without argument that no one whose scholarship is limited to graduation from the kind of school in which he teaches can do justice either to himself or his classes. The scholastic attainment of our ideal teacher must then represent more preparation than can be secured in the secondary school. After the high-school course has been completed he ought to go for two years to the best state normal school or school of education available, and follow this immediately by sufficient work to secure the bachelor's degree at one of the best colleges. If the work ahead of him as a teacher demands greater specialization than he has been able to get up to this time, he may spend two or three summers in the university and take his master's degree in the line of work in which he has found his greatest strength and interest.

Now comes the critical period, demanding that his knowledge be matured, rectified, and proved by the real work of teaching. The thought-plane of the teacher ought always to be the same as that of the student. With the ideally prepared teacher this will always be found. When preparation for this kind of teaching has gone beyond

that mentioned, the thought-plane is elevated, so that the boy is not recognized but only the man. Work in original research, and that leading to the Ph.D. degree are very likely to make the teacher become absorbed more in his work than in the student to whom this work may be presented.

Whenever any teacher's scholarship reaches such a point that he is more interested in his field of work than he is in high-school boys and girls, he ought no longer to teach boys and girls, but men and women; and hence his sphere of labor should be transferred to the college or university. This is the line of demarkation between teaching boys and teaching a subject. In this may also be seen the difference between the vital, inspirational, sympathetic teacher in some secondary schools, and the dead, uninteresting, heartless teacher acting simply as a condenser and distributer of knowledge for some college or university.

I do not mean that the thought-plane ought not to be subject to daily change, but when the condition would be improved "the fodder ought to be placed lower in the trough."

Special professional preparation.— The period of adolescence covers practically the period of secondary education. The adolescent is unlike either the child or the man; and hence the ideal teacher, having to deal with an individual differing from others, must have a different kind of professional knowledge and training. Public toleration of poor teaching is less for the secondary than for any other school, because the public mind does not grasp the greater difficulties presented in this school. The service is difficult; let the teacher have all the knowledge obtainable from schools of education and normal schools, because the erratic boy or girl may prove the exception to all previous cases studied and all deductions made.

G. Stanley Hall's *Adolescence* ought to be the bible of all looking forward to secondary teaching, and to most who are teaching in secondary schools. This treatment of the adolescent may yet show us the Moses and the Promised Land.

It is absolutely essential to the ideal that this teacher be a close student of adolescence. The primary teacher may attain great success in her field of work without the knowledge coming from this kind of professional study, and so also the college and university teacher whose interest is expected to be limited largely to subject-matter. He regards his work entirely finished when he has presented

the truths of the subject in proper order and very generally cares little whether his students obtain great things from him. He defends his position by saying that he is teaching men and women who know why they come, and it is not his business if they fail in grasping all he presents; but the man who teaches adolescents must know boys and girls from thirteen to eighteen years of age.

In addition to reading the best thoughts of the great teachers, the ideal teacher must be a daily student of youth. By this means years of experience and struggles with large and ever-changing bodies of students will lead him to know almost intuitively what is best to do with and for each student.

Progressive improvement.— It is peculiarly true of the secondary teacher that no amount of professional reading and study can ever take the place of extended experience involving close contact with secondary school students. The walls of partition have to be broken down and access to the teacher, not only made possible, but invited and urged.

A senior in a great normal school or college of education can tell you precisely what to do with a boy under any and all conditions; but real contact with a boy in a real school soon shows such a senior that a boy has much to do with what is accomplished in him, and so the ideal teacher can neither depend on theory nor on practice, but upon a judicious and harmonious molding of both.

Accordingly no ideal teacher can remain so who does not spend at least every fifth year, or one-fifth of each year in mastering the best and newest theories presented by the best colleges of education and normal schools.

STRATTON D. BROOKS
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The ideal secondary-school teacher should possess at least the characteristics included in the following groups:

Personality.— Tact, interest, and sympathy was the trilogy with which Professor Münsterberg put to rout the advocates of psychological training as the fundamental element of success in teaching. These three characteristics are, and ever will be, the fundamental ones of every successful teacher. They are the qualities which enable mediocre intellect to render acceptable service. It is because of them that teachers of limited training rise to conspicuous heights. Every

school, however poor the preparation it offers, however inefficient the training which it gives, yet sends forth some men or women whose personal qualities make them real teachers. It is their success that the school offers as evidence of its own superiority, or as conclusive proof that extended professional training is unnecessary; though, in truth, the success of the poorly trained is most often due to the presence, and the failure of the well-trained, to the absence of the three essential characteristics, tact, interest, and sympathy.

In addition to tact, interest, and sympathy there are other elements making up the personality, many of which have such a bearing upon success that we wish our ideal teacher to possess them. A pleasing personal appearance, a keen eye, a well-modulated voice, and good health are much to be desired. Honesty, truthfulness, fair-mindedness, absolute uprightness of character so ingrained as to make itself manifest in manner of living rather than in words — these must be demanded of all who aspire to any leadership of boys and girls, or who hope to be concerned with any education really worth while.

An understanding of youth.— The ideal teacher must know his pupils, and know them so thoroughly that he can deal with them with tact, interest, and sympathy. I do not mean that knowledge which many fluent speakers on child-study possess, that knowledge which says that a child at ten has such and such characteristics, while a child of fourteen is so and so. I mean rather that knowledge of boys and girls which, taking all the aid it can from the generalizations of paidology and every other "ology," deals directly with each boy and girl, or with the assembled boys and girls, with such accurate interpretation of their thoughts and feelings that every appeal, whether to emotion or to reason, is adapted to the case in hand.

By thus emphasizing individualization of appreciation of the mental attitudes of children I do not mean to reject the generalizations of child-study. In fact the general similarity of children of the same age is so markedly different from that of children of another age, that teachers who have for years devoted themselves to the appreciation of the mental attitudes of children of one age find great difficulty in adjusting themselves to the different conditions presented if they are asked to teach children much older or much younger. Thus the high-school teacher has a habit of interpretation of mental attitudes which will fail him in the grades, while the teacher of long experience in the

grades will in a similar way misinterpret the high-school pupils. This ability to appreciate the mental attitudes of children of high-school age is the *sine qua non* of the ideal teacher of secondary-school children, and must cover both the emotional and the intellectual sides of child life. A superintendent may visit room after room. What he says and does may please and instruct. He may bring with him an air of good-will and jollity to which the school will respond and on account of which every child will like him. Yet all this may not affect in a lasting way a single child. With the teacher it is different. He cannot come and go. It is his to share all the varying moods of all his different children. Through their love and interest and pleasure and ambition he moves them toward sound characters, but none the less through their hate and anger and displeasure and doubt must he accomplish the same end. In intellectual matters must he also be quick of perception, and appreciation. He will allow the students time enough but not too much, the currents of thought must not acquire the weedy stagnation of the inclosed pond, nor yet the futile shallowness of the bubbling brook. He must recognize the full flow of the mental current and change from topic to topic or lesson to lesson at such a time and in such a way as to carry over from one to the other the greatest amount of force and strength. He must perceive the flow and the ebb of attention and power and set the hardest tasks when they have greatest chance of successful accomplishment. He must read with ease the subtle signs which indicate the approach of fatigue. He must be aware that the vigor of attack depends upon the kind of fatigue which precedes and cunningly devise the presentation of each subject so that it gains most or loses least from its relation to the preceding.

The characteristics which have been included in the three preceding groups are essential and fundamental but they are by no means the sole characteristics of an ideal teacher. They have been placed first because more largely than those which follow they are the result of birth rather than training. Alone they are of small value, but through them and because of them the teacher may most effectively use the additional educational weapons with which he may be equipped. The professional school may do much to bring out and to strengthen them, but even their complete development in the school of experience is not uncommon, a condition which seldom exists with reference to the remaining groups.

Scholarship.— The ideal teacher must know his subject accurately and thoroughly lest he be justly compared with the teacher to whom a master of the Latin school said, "You are an excellent teacher of things that are not so." The appeal for ample scholarship has been so often made that its repetition is unnecessary. I wish rather to point out that in itself alone it may be a hindrance rather than a help. It is only when high scholarship is possessed by a man who knows children that it reaches its highest. The teacher fresh from college knows his subject, but he does not yet know how much of his subject is adapted to high-school pupils. Of such a teacher it has been said with some show of truth that his "efficiency decreases in proportion to the square of the distance he has gone into his subject." The most brilliant scholars have greatest difficulty in their first years of teaching in coming down to a high-school class, and for this reason experienced principals prefer those of lower rank in scholarship.

In his knowledge of the subject the teacher should include, therefore, both the final goal toward which he is leading the pupils and the present position of the pupils on the journey. The highly educated teacher may know only the former; the teacher of limited education may know only the latter. The arithmetic teacher who knows only that the class are "going to page 126" as set down in the course of study, and the teacher whose vision ranges so far ahead into algebra and higher mathematics that he does not know that his efforts to "open vistas" of distant mathematical fields are hindrances to real progress, are both alike far from the ideal. It is clear, however, that the possibility of the ideal exists only with the one possessing the more extended education.

The spirit of research.— The ideal teacher must possess the spirit of research. No man can set boundaries to mark the amount of knowledge desirable in any subject. So long as the teacher remembers the capacity of his pupils there are no limits beyond which he should not go. The ideal condition is not determined so much by the distance that a man has gone into his subject as by his attitude toward it. The desirable, or better, the essential attitude is that of research, that determination to know the truth within a certain field and, if possible, to extend the boundaries of that field. The teacher fresh from college may know his subject but if he lacks the spirit of investigation he will not keep in touch with the changing character of that subject and will degenerate into a mere time-server. In ten

years the teaching of Latin has been greatly improved, but there are many teachers, once excellent, who are unaware of the changes which have taken place. Only those teachers who are filled with the spirit of research can keep themselves among the foremost of their time.

Selective judgment depending upon special professional studies.— The attitude of research demands that the teacher be able to judge and to choose. Not everything that appears in regard to any subject is the truth, and not all of the things which are true are usable in our teaching. The teacher must sort the true from the false and decide how the truth will modify his teaching. This judgment demands a critical attitude which can come only from thorough training. A philosophical training of such breadth and depth as to enable the man to judge sanely and soundly is essential. Since this judgment is concerned with determining the educational value and educational results of material presented in his special field it is well that this philosophical training include the sciences most closely related to education such as psychology, ethics, and sociology. Furthermore no judgment of the value of educational material, will be of value if it be not made by one who has some standard of educational worth which is in accord with the general educational situation of the times. A training in educational theory and principles thus becomes part and parcel of the ideal teacher's professional equipment.

The critical attitude applies not only to material but to method. The ideal teacher is not so much in need of a method of teaching as he is of a knowledge of different methods sufficiently wide to enable him to judge safely as to the desirability of adopting any new method or device which may be proposed. The teacher who comes out of school or college equipped with a method which works is less liable to become the ideal teacher than the one who has been made conversant with the major purposes and some of the minor devices of many methods to the end that he may have a discriminating attitude toward methods and be able to select those which lead to the ends which his own educational philosophy has established as the purpose of education.

Such an appreciation of educational aims and educational methods can come only in connection with some study of the history of education. A knowledge of what the world has done will not only aid in the comprehension of what it is attempting to do, but it will also prevent the expenditure of effort along lines that have proved

unavailing. The scholar possessed with the spirit of research toward both material and method will of necessity be an experimenter. It is essential that he know what has been tried both that he may judge of the value of methods proposed by others and that he may avoid directing his own experiments into channels which have long since been shown to lead to undesirable results. Our ideal teacher must therefore in his practice make extended use of his knowledge of the history of education.

Progressive improvement.— The ideal teacher must be able to read with discrimination and judgment. The professional school may give some foundation for the attainment of the ideals set forth, but it can do little more. The teacher must maintain himself, and the hundreds of teachers whose worth has not improved in the last decade are witnesses to the fact that this is far from easy. In order to maintain himself he must read. It is by reading that he shall keep before him the fundamental elements of his training and render them effective in his work; but, on the other hand, it is the character of his fundamental training which determines whether his reading shall help or hinder. Only the scholar can read the periodical literature of his special subject and sort the true from the false. Only the well-trained man can read the educational journals with his mind open to conviction and yet avoid following strange gods. Only the man with extended professional training can determine the validity of the psychological, ethical, or sociological presuppositions which underlie some new method which on the face of it seems desirable. It is perhaps fortunate that the under-trained teacher is little prone to investigation and progress, or we should have greater damage than we do now from ingenious and plausible presentations of educational foibles which a sound theory of education must reject.

Summary.— Such is my conception of the characteristics of an ideal secondary-school teacher, and it is evident that professional training will do much toward attaining to that ideal. Tact, interest, and sympathy it cannot give, but it can furnish such soil and surroundings that the seed already sown may come to an abundant fruitage. To him who has tact, interest, and sympathy it may reveal the child. It may promote scholarship or accept it from the non-professional college; but in either case it may give to the spirit of critical research that turn which directs it toward educational results. By implanting educational ideals it renders possible a saner judgment of educational

values, which in turn assists in the selection and evaluation of methods. From the history of the past and the literature of the present it seeks to retain the value of experimentation while avoiding waste of time and energy in the repetition of experiments.

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In our earliest childhood we learned from the lips of wisdom that the largest success in life, whatever our calling, profession, or business would come only as we had the highest ideals. A high ideal, however, is of little value, and will change neither "spots nor color" unless our aim be fixed constantly toward that ideal. The motive, the moral attitude, is the most essential thought in one's life.

The question of sex.— Before discussing the essential qualifications of the ideal secondary teacher, let us touch upon that division of the subject which is attracting much attention, provoking much dissension, and bringing into view a startling array of statistics, viz., the ratio of women to men in the public schools of the United States.

While this question has special relation to the common schools, it is a factor which cannot be eliminated in the solution of the high-school problem, and enters with irritating effect into our reflections as to the quantity and quality of those credentials, physical, intellectual, and moral, which the welfare of our secondary schools demand of every teacher.

His Reverence, the eminent Bishop Spalding, of Peoria, some time since said, "Women are employed almost exclusively in our public schools, because their services are cheap;" and added that the same motive would justify us in employing convicts as a still more frugal method of employing teachers. Without commenting on the worth or the wisdom of the statement especially regarding "convicts," is not the bishop correct, when we get down to the final analysis of the motive which prompts the employment of such an abnormal ratio of women in our schools?

It is a maxim in all other kinds of business that the best is the cheapest, but in securing teachers, boards of education seek to be justified in reversing this truth, and making the cheapest the best. Go where you will you hear it said, "We need more men, but we cannot offer the salaries they demand." This is a true statement, and as sad, as degenerating, and as degrading as it is true, and therefore

ought not the sex, which represents the pathos, the purity, the piety of this world, through whose nurturing influence the flowers of hope are made to bloom perennial in the garden of the heart, whose solace is a surcease of sorrow, and whose soul, instinct with the love of maternity, goes out toward childhood, to mold it through sympathy as does no other influence save the directly divine — ought not, I say, the sex to combine in their majestic potency to make this statement a libel rather than a truth?

In Massachusetts, from quite recent statistics, of all its public-school teachers 90.5 per cent. are women and only 9.5 per cent. are men. In Illinois 71.3 per cent. are women and 28.7 per cent. are men.

The ratio of men is constantly diminishing.— I am one of those who believe that the same work performed with the same skill, and producing the same beneficent results should receive the same pay. I also believe that at present there are more men than women thoroughly well qualified to teach in our secondary schools, and that therefore the large ratio of women to men in these schools militates greatly against the quality of the work they ought to turn out, as the crown of our public-school education and as fitting-schools for colleges.

I would not be misunderstood. I believe in the higher, the highest education of woman. I am in hearty accord with her purpose and ambition to enter all the professions, all the trades, all the departments of industry. She is entitled to the right of way along every avenue where moral character is to be molded, intellect developed, or support secured. I only insist, and I believe my position is sustained by the logic of nature, and by the necessities of the age, that a parity of number shall be maintained in our high schools, that where education, experience and ability are alike, there shall be as many men as women employed, and that there shall be no discrimination of salary based upon sex.

Moral character.— Since the age of pupils in our secondary schools is such, that these pupils respond to influence virtuous or vicious more readily than in any other period of their lives, and since the end of all school education is character, the first essential of an ideal secondary-school teacher is moral character. Without this, and of a very pure and exalted kind, no one can be an ideal teacher, however rich may be the scholarship, rare the knowledge of the child or ripe the experience.

Scholarship and academic culture.— It is a trite saying that edu-

cation is a primal qualification for those who would mold the pliant mind of childhood, and shape it into a character that shall bless the world by its influence, but education is a term which in our time is too loosely defined.

I have great respect for specialists who fill the measure of their days in investigation and research, seeking after and delving into hidden things in the universe of God's thought, in the realm of nature. I honor the philosopher who spent his life upon the Greek article, and in dying sighed that he had not given his years to the dative case; but I would not employ him as a teacher of elementary Greek in our secondary schools. We look to the laboratory and the cloister for those revelations which revolutionize scientific thought, and present to us the origin and development of psychical entities; we bow in silent awe before those who discourse with such eloquent and unlimited verbiage about child-study and the concentration, correlation, and co-ordination of the various branches of learning; but the student who gives his life to the laboratory, and the teacher who stands before the living child are two different individuals. The physicist and chemist who teach our youth should sit not only at the feet of Helmholtz and Leibnitz, of Faraday and Thompson, but at the feet of Homer and Dante and Shakespeare as well. The classicist who unfolds the beauties of Cicero and Homer should also be well tutored in mathematics and science. Our colleges differentiate too early. Candidates for positions in our secondary schools should not commence a university course at their entrance to college.

I desire to make a plea for broad culture, symmetrical training, an all-around education in language, mathematics, science, and history; and for a persistent and never-ceasing study of English classics and English literature. For, as President Eliot says, "The power to rightly understand, to critically use the mother-tongue, is the consummate flower of all education." I believe in departmental work in our secondary schools as in our colleges, but the spire should be built on the top of a finished building, resting on solid foundations. One, then, who gives all his college life to a single subject, pursuing besides only those studies which are intimately collateral, may be giving full rein to a marvelous genius, and preparing himself to become a benefactor in the discovery of some secrets in the physical or psychical world, which shall ameliorate the condition of humanity and hasten the millennium; but such a person deserves no place as a

teacher of youth in our secondary schools. The education of a teacher should be first general, then special. I have seen it written,

> All art seeks the highest form of expression for what it creates. The cathedral is the highest expression of art in architecture; the oratorio and symphony in music; poetry in literature, and eloquence in oratory. As the human soul is God's expression of what is greatest in man, so that is the greatest of the fine arts which shall express the most of man's greatness. Knowledge in all its forms, is the marble in the quarry, or dragged up on sledges a little away from the primeval mud. Literature is the subsequent statue, full of grace and snow-white in purity. Language then as the gateway to the soul's highest expression is the center about which all studies correlate.

I would make language then, ancient, modern, foreign, native, the basic study for all who would become successful teachers. Upon these foundations laid deep and strong, I would build a superstructure, scientific in character, mathematical in correctness, historical in breadth; and upon this building poetical in its symmetry, beautiful in its proportions, richly plain and plainly perfect in all its inner furnishings, there should rise some magnificent turret, original in design and typical of a special genius, which should tell to all around its exact location and for what it is specifically adapted.

The very minimum of preparation in scholarship should be a college education; an education general in character, removed at least four years from high-school training; and where circumstances may permit I would add one year of resident graduate work along specific lines, and two years of study and travel abroad.

Progressive scholarship and social activity.— This education, however, to the real student, to the scholarly scholar, will be but a beginning of those intellectual possessions which shall be easily and delightfully acquired as the years unfold; but one who, having secured the meager discipline of a high school, attempts to acquire the knowledge and power sufficient for a secondary teacher, through university extension circles, Chautauqua courses, summer schools, normal schools, and private study, will ignominiously fail to secure that kind of scholarship which the needs of our secondary schools demand.

The real teacher will always be a student. He will not spend his years in riotous living, his evenings in social pleasures, nor his leisure in flattering his own conceit by writing books for an already congested market. He will be furnished with an ever-increasing library

of his own, he will be a patron of the public library if one is at hand; he will be a social power in the community where he lives, the inspirational center of every literary circle, and more than a Delphian oracle to all the young people around him.

But "pity 'tis, 'tis true," intellectual attainment, education, is only one of the essential elements of a teacher's equipment. You may call it the headstone of the corner if you please, but the headstone of the corner is only a small part of a great structure.

Temperament and personal qualities.— Much, I shrink from thinking how much, depends upon the temperament of the teacher. Many a school has been ruined, many a pupil's life has been spoiled, and the current of his activities turned into wrong channels, by some teacher, whose words, sharper than a serpent's tooth have produced irremediable wounds. A dyspeptic, the victim of a disordered stomach, who enters the schoolroom under the influence of "an undigested bit of beef, a blot of mustard, a crumb of cheese, a fragment of an underdone potato," is a maniac, and a patient public should insist upon his retirement. A cross, peevish, nervous, sarcastic, wizen-souled, torpid-livered man or woman has no business with the profession of teaching. To be a teacher, a guide, a trainer, a safe counselor of youth, one must be a paragon of kindness, patience, and love; not a kindness that encourages disorder, not a patience that brooks an insult, not a love that borders on maudlin sentimentality; but a kindness, patience, love that are divinely given, divinely developed; these virtues, these graces, should be so enthroned in the mirror of the soul, so interwoven into one's intellectual attainments, that a company of youth sitting day by day under the benignant influence of such a character, would be molded into such a oneness of industry, ambition, and appreciation, that the memory of that teacher would forever be the Mecca of their deepest gratitude. While a pupil bright, industrious, keen in perception, quick in adaptation, appreciative, thoughtful, excites our admiration and tempts our best attention, it is rather the dull pupil, whose hereditary possessions are few, but whose application is diligent, who has never yet felt the touch of a master hand upon his sleeping talent, and the mischievous pupil, who is in a constant state of natural ebullition and whose intellectual fermentations find vent at most inopportune times, that call forth our highest talents, and test our real ability. These are the pupils that try our patience, and exhaust our kindness; and yet these are the

pupils whose welfare demands the richest products of a most serene temper and who will not brook either acrid words or an attitude of indifference, and the teacher will become the true teacher only as he secures the respect, wins the confidence and gains the absolute affection of the dull, the indolent, and the mischievous; and these will come only as a result of an exhibition of patience and kindness which is second only to scholarship in a teacher's equipment.

The silent influences of nature are stupendous in their results. We see them in the blade of grass, the unfolding leaf, the bursting blossom. They are everywhere present, night and day, noiseless yet maturing, producing all that is beautiful, and sad to say, all that is baneful. In the very breeze that fans us as we walk the streets may lurk the bacteria of disease as well as of health. It is equally true and equally demonstrable, and without the aid of a microscope, that every person carries with him an atmosphere of good or evil; and far more eloquent and infinitely more impressive than all his precepts and all his professions, is the silent influence of his daily example.

Power of example.— Personal appearance then bears no insignificant relation to a well-appointed teacher. I do not refer to beauty of face, for sometimes upon the homliest features there sits those qualities of soul that transfigures the person until "his face shall shine as the sun and his raiment be as white as the light." I refer to that personal appearance that manifests itself in tidiness of person, in neatness of dress, in grace of posture, in correctness of gait, in civility of manner, and in all those graces and amenities, whose silent influence will metamorphose character, and establish right habits in those who are to us as clay in the hands of the potter; but a teacher, I care not if his scholarship approaches perfection, who is careless of his personal appearance, slovenly in his dress, awkward in his gait, boorish in his manners, whose taste for the graceful and the beautiful has not been developed, and who forgets that the way he sits and stands and walks, the way he dresses and addresses, is having a silent and incalculable influence upon the character, life and destiny of all his pupils, is not fit to be in the schoolroom. It is no place for cranks and dudes, for people of eccentricities and idiosyncrasies who take more pride in being unique and peculiar than in being civil and gracious. When one's instruction is such as to inspire confidence, then his every attitude will provoke imitation, so that the better the instructor, the more important is it that his per-

sonal appearance, his manners, his dress, his conversation, his every movement shall reflect the Christian gentleman.

Voice and oral expression.— Let me speak of but one more essential characteristic of the real teacher — a gentle, well-trained, cultivated, mellow, musical voice — a voice so attuned to pleasing harmony as to attract the listless, stir the ambitious, inspire the thoughtful. A harsh, rasping, shrieking voice, the mouthing of one's words, carelessness and lawlessness of utterance are faults so glaring that their toleration is a constant surprise. There is no sense so acute as that of hearing, and it is through the ear rather than the eye that pupils learn the form and use of words. Poor spelling, the absurd application of technical terms, and the strange answers to questions set for an examination are often more the fault of the teacher than the pupil.

A distinct articulation, a clear enunciation, a proper pronunciation, the taking off of one's hat in respectful courtesy to every English word and to every syllable of that word is an all-important culture to one who would be an exemplar of the English language before his pupils. The reading of the English classics in our high schools is something abominable.

In our intense anxiety to teach literature we have abandoned all attention to voice culture, and while I would not sacrifice thought to utterance, they are to my mind inseparable when one is reading aloud. I am not arguing for elocution in its vicious sense, nor for Delsarte in its excessive forms, but I do contend that we shall not be able to cultivate a literary sense in our pupils, unless we are able to read literature with a full application of its emotional feeling, and awaken in our pupils such an appreciation of the style as well as the content, that they will be aroused to cultivate the ability to differentiate between the pathetic and the humorous, the didactic and the descriptive, in vocal expression as well as in thought comprehension, and not read the "One Hoss Shay," the "Sermon on the Mount," "The Death of Paul Dombey," and "Rienzi to the Romans," all in the same tone, with no stirring of the passions and no change of the features. This is all out of nature. The young woman standing at the bedside of a dying mother, the young man, with all his nerves at full tension contending on the football ground, will each show in the play of every feature, emotions befitting the occasion, and it is quite unpardonable that in our high schools where there should be the

freest exercise of the organs of the voice to insure not only good tone, but a healthy development of other physical functions, the natural should be so subordinated to the artificial, that we are forced sometimes to say that pupils seem to make progress in spite of their teachers.

Summary and conclusion.— In this honest but homely way I have presented some of the qualifications which I deem essential for those who would enter the profession of secondary teaching. Is the picture overdrawn? Are the conditions exaggerated? Do I exalt too highly the teacher as an exemplar of physical health, mental acumen, moral power? Can one who is to guide, direct, control the mental trend, fashion the moral habits and shape the destiny of the youth of this generation be too erudite? If, as Emerson says, "the true test of civilization is not the census, nor the size of cities, nor the crops, but the kind of man the country turns out," then as men and women largely responsible for this civilization, we cannot have our voices too thoroughly trained, we cannot be too careful of our personal appearance, we cannot have our morals and manners, and our relations to society, too nicely defined, we cannot cultivate too even a temper in all our methods of discipline, we cannot enter the profession with a scholarship too rich, ripe and rare, nor improve upon it in our experience with too much reading, reflection, and study.

When there shall be a parity of salaries among men and women, when they shall have all their powers fully and ornately developed, when moral character as well as mental equipment shall dominate in the choice of teachers, then will our secondary schools excel all other agencies, in advancing and perfecting the civilization of the twentieth century.

J. F. BROWN
Inspector of High Schools, State University of Iowa, Iowa City, Iowa

This paper will be limited to a very brief statement of the qualifications which the writer conceives to belong to the ideal secondary teacher. No attempt will be made to discuss these qualifications at length.

Personally.— The ideal secondary teacher should have good health and sufficient strength to endure without serious fatigue the drafts made upon his vitality by the teaching and by the nerve-strain incident to the control and direction of impulsive, buoyant youth.

Poor health and lack of endurance on the part of the teacher are responsible for many misunderstandings and consequent lack of hearty co-operation between teacher and pupil. He should be able to command the respect and confidence of pupils. If to this faculty there can be added a personal agreeableness that wins well-sustained popularity, so much the better. He should possess a certain sprightliness of spirit which renders him at all times a match for the more or less spasmodic spirits of his pupils. He should be able to understand and enjoy the innocent enthusiasms of youth. He should have a healthy sense of humor, a great power to enliven the monotonous routine of daily work, and to take the sting out of an unpleasant situation. The ability to see and enjoy the humorous and to relieve the tension of a seriously uncomfortable position by a well-timed humorous remark is of special value in the management of boys.

He should possess self-control, not cold stolidity or unbending dignity, but a never-failing command of himself and his resources, showing itself in position, movement, and word, and perhaps most of all in the voice, that wonderful power for good or ill in all social intercourse. This self-control usually manifests itself in a certain repose, not pose, of manner which is a great power in determining the atmosphere of the school. He should have a strong interest in human nature, especially in the ultra-serious moods and the tempestuous impulses of youth. This interest breeds appreciation and sympathy. He should be able to understand and to let his young friends know that he understands, even though he may disapprove and chide. He should believe in boys and girls and have faith in the greatness of the work in which he is engaged. His deepest convictions, his ideals, and his habits should make for good citizenship and high character. He should be a man, she should be a woman, in the best sense of the terms.

Scholarship.— The ideal secondary teacher should possess a scholarship broad enough to give him a fair appreciation of the world's work and of the whole field of human culture. He should understand and appreciate the work of men and women outside his own field of labor, and he should be able to mingle with them in social and business relations without showing too plainly the earmarks of his own vocation. He should know enough to know there are many fields of human knowledge and effort just as important as his own even though they may not be so interesting for him.

His knowledge of his own particular subject should be thorough enough to enable him to spend his energy in studying the needs of his pupils and in devising the best methods of presenting his subject, rather than in the mastery of the facts with which the subject has to do. He should be able, on occasion, to entertain, instruct and inspire his pupils by lecturing to them — a much easier task than that of securing good oral or written work from them. He should have sufficient scholarly interest in his subject to incite him to constant advancement in it. He may even contribute something to the sum total of human knowldge in his chosen field. A very important though necessarily somewhat limited sphere for his activities may be found in the writing of textbooks. Good secondary teachers must necessarily study methods of presenting their subjects, hence the excellence of many textbooks prepared by them. The teacher's knowledge of subjects closely allied to his own should be sufficient to enable him to bring out clearly the relationship existing between them. He will probably be more efficient if he can teach two or three subjects equally well.

The extent of his scholarship measured in terms of school degrees cannot be dogmatically stated. There are many exceptions to any definite rule. The writer's observation leads him to believe that the bachelor's degree from some good college or university is none too much as a minimum. In many cases it is clearly insufficient, for example, when the course pursued has included a little of many subjects but not enough of any one to give an adequate knowledge of it. If to a well-selected college course there can be added a year or two of graduate study along special lines, the equipment is so much the better. But when this advanced work is done, the teacher sometimes needs to be reminded that his duty is not primarily to make scholarly specialists of his high-school boys and girls, but to train them in thought, power, and character by means of the various instrumentalities of the school, his particular subject being one among many others.

Professional knowledge and training.— The professional preparation of the ideal secondary teacher should include, first of all, a knowledge of educational psychology, especially the psychology of the adolescent period. Such knowledge constitutes a rational basis for patience and skill in dealing with the eccentricities of youth. He should know something of educational values and understand the

philosophy underlying the school course of study. This should assist him to act wisely in the adjustment of work to the needs of the individual.

Every secondary teacher should have some knowledge of school organization and administration in order that his part in it may be intelligently done. If his duties be executive to any considerable degree, his knowledge of this subject should be correspondingly greater. Some experience is necessary before the ideal teacher arrives. That experience may well be gained in a small high school under the direction of a competent superintendent or principal. The teacher will not be unfortunate if, in this apprenticeship, he is required to teach several different subjects.

The writer firmly believes that many of the mistakes made by inexperienced teachers in their first service could be avoided if they could have the advantage of observation-classes and practice-teaching under skilled supervision. However well the lecturer may tell the things to be done and the things to be avoided, the mere telling is necessarily more or less abstract in its nature. Actually seen or done they become concrete. The pupil-teacher's attention has been fixed upon an important fact or principle which might otherwise have been overlooked. The professional training of the ideal teacher should also include some consideration of the school as an institutional member of the social organism and of himself as a personal member of that organism.

III

THE PRESENT STATUS AND PERSONNEL OF THE SECONDARY TEACHING FORCE IN THE UNITED STATES

EDWIN G. DEXTER
Professor of Education, University of Illinois

The plan and method of this study.— Since there is no general prerequisite to admission to the teaching force of our secondary schools, it was recognized that the teachers themselves must be appealed to for the facts upon which to base this study. Consequently, in October, 1904, there was sent to the principals of 1,144 of our public high schools the following letter and blank:

THE UNIVERSITY OF ILLINOIS
DEPARTMENT OF EDUCATION

URBANA, ILL., Oct. 5, 1904.

DEAR SIR OR MADAM: — The next Yearbook of the National Society for the Scientific Study of Education is to be entirely devoted to the question of the preparation of teachers for our secondary schools. One phase of the question — that of the present preparation of the teaching force — has been assigned to me. In the name of that society I am, then, asking you to fill out the inclosed blank for yourself and each of the teachers of your school, and return it to me at your earliest convenience. I fully realize that such requests may seem a burden, but know of no other way to secure the information than through direct appeal to the principals.

Thanking you in advance, I am,

Yours very truly,

EDWIN G. DEXTER.

To Principals of High Schools.

THE NATIONAL SOCIETY
FOR THE
SCIENTIFIC STUDY OF EDUCATION

STUDY OF THE PREPARATION OF HIGH-SCHOOL TEACHERS

.....School.

.....Town or City, and State.

a	*b*	*c*	*d*	*e*	*f*	*g*
Teachers (Name or Initials)	College	Normal School	Degrees	Present Salary	Years as H. S. Teacher	No. Subjects now Teaching
1						
2						

[Space for twelve teachers.]

If initials are used in column *a*, indicate females by (*f*). In columns *b* and *c*, give names of institutions. If not a graduate, use a number to indicate years of attendance.

If pedagogical courses were taken in college, add *P* in column *b*. If practice-teaching was done in connection with such courses, add *PP*.

.....Principal.

In each instance a stamped and directed return envelope was inclosed. Since it was seen that not all the secondary schools of the country could be appealed to because of the great expense involved, it was decided, first, that only public high schools should be covered by the study; and second, that states should be selected fairly typifying the different portions of our country, and that the blanks be sent to each school within those states, as shown by the tables for public high schools in the 1902 report of the United States Commissioner of Education. The following states were therefore canvassed: Massachusetts, Connecticut, Rhode Island, Delaware, District of Columbia, North Carolina, Alabama, Illinois, Minnesota, North Dakota, Colorado, Montana, Idaho, New Mexico, Utah, Washington, California, Nevada, Indian Territory, Arizona, and Wyoming.

With the sole exception of the city of Boston, which was believed not to be typical of American high-school conditions, each high-school principal in each of the states mentioned received the blank — unless the mails miscarried. In addition to the information so received, the 261 high schools within the state of Illinois either wholly or partially accredited to the state university were studied by means of the blanks on file in the office of the high school visitor. Since, however, these did not cover the facts included in Topics 13, 14, and 15, of the following tabulation, Illinois does not figure in the study for those particulars. A few states having but a limited number of high schools failed to make any response whatever to the letters sent out, and as a consequence do not figure in the study. Those which

made a more or less general reply and so are included are as follows: Massachusetts, Connecticut, Rhode Island, Delaware, District of Columbia, North Carolina, Alabama, Illinois (as explained), Minnesota, North Dakota, Colorado, Montana, New Mexico, Utah, Washington, and California. Although in the tabulation which has been made of the returns each state was considered separately, it has not been thought wise to print the extended tables in the Yearbook, so in a general way the geographical divisions made use of by the Commissioner of Education in his printed reports have been followed. The one exception to this is in the fact that the South Atlantic and the South Central divisions are combined, the two together only furnishing sufficient data for a single group large enough to reduce the probable error due to accidental variations, to a safe working basis. The following table gives the statistical results of the study for four great geographical divisions of our country as well as the totals for the whole country. It has seemed to me that the simplest way to discuss these findings is to consider each topic of the table as shown in the left-hand column separately, or at least only to make such groupings as shall express most plainly the facts.

It is no more than right to say that the considerable labor of preparing the table has been done under my direction by Mr. C. C. Burford, graduate student in the Educational Seminar of the University of Illinois.

General conditions covered by the study.— (Topics 1, 2, 3, 4, 5, and 6.) As will be seen (Topic 1 in the table) the total number of schools appealed to for information, or for which it was already at hand, was 1,305, or about one-fifth of the total number of high schools in the country. In the next line it is shown that 583, or 44.6 per cent., are covered by the study. If we subtract the 261 Illinois high schools from that number we find that but 322 out of more than 1,000 high schools directly appealed to, or less than 33 per cent., took any notice whatever of the letter. Although I fully recognize the fact that appeals for information have become something of a nuisance, considering the fact that the request came from the National Society and that the reply was made as easy as possible and without expense, the meagerness of replies seems to me to be something of a reflection upon the general educational interest of our high-school principals. Undoubtedly, too, the meagerness of return, indicates that we are studying a selected group of high schools rather than the typical

TABLE I

	North Atlantic Division	South Atlantic and Central Division	North Central Division	Western Division	Total
1. Number of high schools	341	122	510	332	1,305
2. Schools reporting:					
Number	160	26	313	84	583
Per cent	46.8	21.3	61.2	25.2	44.6
3. Number of male teachers	421	101	817	234	1,573
4. Number of female teachers	1,178	156	1,027	285	2,646
5. Total number of teachers	1,599	257	1,844	519	4,219
6. Average number of teachers to schools:					
Male	2.6	3.8	2.6	2.8	2.7
Female	7.3	6.0	3.3	3.4	4.5
Both	9.9	9.8	5.9	6.2	7.2
7. Teachers, college graduates:					
Male, per cent	78.6	65.5	66.8	74.3	70.3
Female, per cent	43.2	23.1	63.5	74.3	53.3
8. Teachers with coll. training, not graduates:					
Male, per cent	4.5	10.0	7.7	10.2	7.3
Female, per cent	8.7	13.6	11.8	8.4	10.2
9. Teachers, normal-school graduates:					
Male, per cent	8.3	15.8	20.4	8.9	15.2
Female, per cent	6.5	21.2	16.0	12.3	11.7
10. Teachers with less than above training:					
Male, per cent	2.3	2.0	1.7	2.9	2.0
Female, per cent	7.5	17.7	8.4	7.8	14.5
11. Teachers with special training:					
Male, per cent	5.2	13.0	4.8	5.1	5.5
Female, per cent	3.9	10.0	6.3	4.8	4.9
12. Teachers with graduate work:					
Male, per cent	25.1	24.8	17.6	22.2	20.7
Female, per cent	5.8	4.5	6.5	11.2	6.6
13. Teachers with pedagogical training:					
Male, per cent	7.1	2.0	8.7	29.6	5.5
Female, per cent	5.3	6.3	14.3	25.9	6.1
14. Teachers with practice-teaching:					
Male, per cent	5.4	....	3.2	3.4	2.2
Female, per cent	2.4	....	1.2	10.5	2.3
15. Average salary of teachers:					
Male	$1226	$805	$956	$1219	$1145
Female	589	520	639	889	652
16. Average number of subjects taught:					
Male	3.8	4.1	3.1	3.1	3.2
Female	3.4	3.6	3.0	2.2	3.1
17. Average years experience of teachers:					
Male	8.9	7.8	8.7	7.5	8.7
Female	6.1	5.1	6.5	4.4	6.1

American high school. As a rule we are more willing to furnish information of which we have some reason to be proud than when the reverse is true, and undoubtedly, the general average of the schools making reply was above that for those which have kept their silence. In fact, this is plainly indicated by the returns considered by divisions and by states. If we leave out the North Central division, which is affected by a totality of returns from Illinois, the percentage of returns from the other divisions represents fairly well the relative perfection of what we have reason to believe is the condition of the high-school system. In the instances of particular states this is especially noticeable. It would be impossible to say how much allowance should be made in the conclusions of this study because of these selective influences, but certain it is that until the time arrives when full returns are obtainable, no method of study seems possible that shall eliminate them.

As shown by the figures under Topics 3, 4, 5, and 6 of the table we see that our study covers 4,219 teachers of whom 1,573 (37 per cent.) are males, and 2,646 (63 per cent.) are females, with an average of 7.2 teachers to a school. A comparison of these figures with those for public secondary schools in the advance sheets of the commissioner's report for 1903 confirms our impression that we are studying, though unintentionally, a selected group of schools, for although our study covers roughly but one-thirteenth of the schools it includes about one-sixth of the total number of high-school teachers in the country. This makes our average number per school (7.2) exactly double what the commissioner finds it for all the schools (3.6).

The relation between the sexes in the teaching force in the group of schools that we are studying and in the larger group furnishes an interesting comparison and suggests a question. As has already been stated, in our 583 schools, 37 per cent. of the teachers are males and 63 per cent. are females. In the high schools of the country 48 per cent. are males and 52 per cent. females. Yet we have stated our belief that the smaller group included the highest average of schools from the general standpoint of organization and efficiency. But this same group of schools is taught much more largely by women than is the other. Are we to conclude that efficiency in high-school work is to be gained through its feminization? Such is contrary to the opinion of the majority of general pedagogical writers who have

discussed the needs of the modern high school. It is true that the *a priori* ideas of pedagogues discussing general educational problems have little weight, and perhaps should have little, with school officers who are after real efficiency in school work. Still it has been a surprise to me to find that theory and practice are so wide apart as our figures would seem to imply. An explanation which seems plausible to me is that we have in our study but few of the one- and two-teacher high schools which abound in some parts of the country and that the excess of males in such schools gives the Commissioner his relative showing between the sexes. In support of this hypothesis I find that of the 328 public secondary schools with but one or two teachers that the Commissioner reports from the state of Indiana (chosen at random) 379 of the teachers are males while but 57 are females. This tremendous preponderance of male teachers in the smallest schools that are even classed by the Commissioner as high schools would so throw the balance of the sexes, that from his report, it would be impossible to tell what their distribution is in the better-organized high schools, and make it seem probable that our showing for the limited group has little meaning.

High-school teachers who are college graduates.— Coming now to the figures in our tabulation that have a direct bearing on the preparation of the high-school teacher, and for which so far as I know no comparative data exist, we find, first, that 70.3 per cent. of the male teachers (and it will always be understood that we mean of the group studied) and 53.3 per cent. of the female teachers are college graduates. This means, to be sure, graduates of institutions of every class from the greatest university to the smallest college, but care was taken in the tabulation to see that no recognition was given (except in Class 10) to institutions not classed by the Commissioner as of college standing. This seems to me to be a surprisingly favorable showing. Among the males there are but slight limits of variation for the different divisions. In this respect the females are in marked contrast, the South having less than one-third the proportion of college-educated women upon its high-school teaching force that the western states have, and but little more than one-half that of the East. In fact, almost the entire discrepancy between the two sexes is to be found in the South and East, the western states showing an exact equivalent between the two and the north central states a difference of but 3 per cent. The latter fact is due, no doubt, to the prevalence

of co-education in the higher institutions of learning throughout the central and western portions of our country. The tabulation, by states, of college graduates upon the high-school teaching force shows some interesting facts. Every one of the nine males reporting from Montana had his college diploma, though the group is too small to carry much weight. Minnesota and Rhode Island came next with 86 per cent., with North Dakota, California, and the New England states following close. For the women, California stands at the head, 84 per cent. (2 per cent. more than for men), with Rhode Island second.

High-school teachers with a partial college course.— The above figures, it will be remembered, are for college graduates. Topic 8 in the tabulation covers those teachers who have taken some parts of an undergraduate college course but did not complete it. We have no reason to suppose, however, that in many instances its completion is more than a question of time. The tabulation does not show the number of years taken. In this class of non-degreed college students we find 7.3 per cent. of our male teachers and 10.2 per cent. of our female teachers. If we add these percentages to those covering college graduation for each sex, we find that 77.6 per cent. of the males have come under the influence of the college, with the percentage standing at 63.5 for the women. Throughout the southern states this class of teachers — the ones with the uncompleted college course — seems more abundant than in the other parts of the country, a fact from which we might infer that in the South the college course is looked upon less as a unit than as a composite, parts of which figure as important elements in an educational career.

High-school teachers with normal-school training.— Turning now from the college-trained teacher, we come to that part of our study which covers preparation through dependence upon other parts of our general educational machinery. No. 9 is for the normal schools. From the figures given under it we see that of the male teachers 15.2 per cent. have had such training, and of the females, 11.7 per cent. In other words, out of the whole number of 4,219 teachers but 549 (239 males and 310 females), or 12.7 per cent., were from the normal schools. A study from the standpoint of geographical divisions shows, seemingly, a marked difference on the part of the high schools in the different parts of the country, in their attitude to the normal-trained teacher. In the middle West and the South nearly one-fifth

are so trained, while in the East and far West the proportion is nearer one-fifteenth. Considered from the standpoint of particular states, North Dakota has depended upon her normal schools most fully, more than 30 per cent. of her high-school teachers having been trained there. North Carolina equaled that percentage for the female teachers, but fell far below it for the males. Illinois comes next with 21.5 and 15.5 for males and females, respectively. At the other extreme comes Rhode Island with roughly 4 per cent.; California with 8 per cent., and Massachusetts, Connecticut, Delaware, Minnesota, and Colorado, each under 10 per cent. An analysis of these figures goes to show that perhaps with one or two exceptions the efficiency of the high schools varies inversely with the number of normal-trained teachers. This must not, by any means, be interpreted as meaning that the normal schools are not doing their work well. Far from it. In my opinion no branch of our public-school system is fulfilling more completely its function than our public normal schools. The figures, to me, imply that our high schools do not as a class seem to consider the normal schools appropriate sources of supply for their teaching force, and that they only use such teachers as a makeshift until others, with better academic preparation than the normal school can supply, are available. Such an attitude, if it exists, is certainly one of great hopefulness for our elementary schools, for it means that the normal schools are not likely to be tempted to devote time and energy in an attempt to train high-school teachers when their own needs are so pressing. To my mind the serious problem is not whether the high schools would suffer if the normal schools should turn their attention particularly in their direction, but whether the elementary schools could stand such a change of interest upon the part of the normal schools without serious injury.

There is shown by the blanks, though the fact is not expressed in the tabulation, to be but little lapping over of the groups of college- and normal-trained teachers, there being but fifty-six men and fifty-two women with both a normal and college preparation. Illinois is not, however, covered by these figures, since the facts were not available. Of the teachers included in both groups, eighteen men and twenty-four women, were from Massachusetts. The facts for the whole group would seem to be that between one-fifth and one-sixth of the normal graduates upon the high-school teaching force have also availed themselves of college advantages. It is impossible to tell from the records which work was taken first.

Teachers with less than the above preparation.— Where no data covering preparation were given, as well as when institutions were mentioned which were known to be of less than college- or normal-school standing, teachers were placed in this class. As will be seen, much the larger number so included were women, though even for them the percentage is surprisingly small. Compared with the numbers of persons who have even achieved more than ordinary success in other callings the high-school teachers who have not gone beyond the stage of secondary instruction is very small. In a study which I made of the educational preparation of persons mentioned in *Who's Who in America,* I found that of six hundred and twenty-five clergymen 24.4 per cent. had gone no farther than the secondary schools; of the physicians 7 per cent., of the lawyers 39.8 per cent., and of the college professors 8.6 per cent. Yet our study shows that of the male high-school teachers but 2 per cent. have made so little use of our educational machinery, and of the females but little more than one-third of the percentage of eminent lawyers.

High-school teachers with special preparation.— Topic 11 upon the tabulation covers the conditions for special oratorical or musical or other forms of æsthetic training on the part of the high-school teacher, and has no particular value from the standpoint of our general study. We are led to wonder from the figures what it is that has turned the teachers in the southern portion of our country so largely in the direction of such subjects, yet the group of teachers studied from that region is comparatively small and the excess may be accidental.

High-school teachers with post-graduate preparation.— The facts disclosed by the figures under No. 12 of the tabulation are encouraging, showing as they do, that more than 20 per cent. of our male teachers (29 per cent. of all who are college graduates) and 6.6 per cent. of the female teachers (15 per cent. of college graduates) have carried their academic or professional training beyond the stage of the bachelor's degree. In this particular there is little variation among the males for the different geographical divisions except that in the middle West there is a considerable discrepancy. For the women teachers that division is up to the average, while the far western states are nearly double the average for the other parts of the country. California and Washington are the particular states that contribute most largely to this condition.

College-trained teachers having had pedagogical instruction.—

The next two numbers on the tabulation are intended to give certain particulars regarding the strictly professional preparation of the college-trained teacher. We are forced to confess, too, that they show but little influence as yet on the part of the pedagogical departments in our higher academic institutions. From the column of totals we see that but 5.5 per cent. of the males and 6.1 per cent. of the females have made any use of such departments. This means about one college man in fourteen and one college woman in nine, the country over. The fact is not so strange as it might seem at first thought, for but few pedagogical departments, even where they now exist are more than a decade old; and No. 17 upon the tabulation shows that the average high-school experience of the teachers whom we are studying runs well up to that time. This would mean that a large number of them entered service before pedagogics were taught in the colleges. The forthcoming report of the Commissioner of Education will show that 12,192 students are now taking pedagogical courses in colleges and universities, or roughly, one in seven of the student body. The tremendous excess of pedagogically trained college students shown by the tabulation of the far West, is due very largely to the requirement in California of one year of pedagogic instruction before a certificate to teach in the high schools of the state is granted. This requirement seems to have influenced contiguous states, for all show high percentages in this particular. Except in the same region practice-teaching in connection with pedagogical instruction in the colleges is practically a negligible quantity. In Rhode Island the arrangement between the pedagogical department at Brown University and the high schools of Providence is plainly shown, for 13 per cent. of the men and 16 per cent. of the women teachers of that state report practice-teaching. Other than that, no state in the union save California alone for women, which gives 17.7 per cent. shows that more than roughly one teacher in twenty of those college trained, has had the benefit of the practice-school.

This completes our study of the preparation of the high-school teacher. The other three topics upon the tabulation, unless it be the last, having to do with the conditions under which they work.

Average salary of teachers.— For men this is shown to be at its best at the two extremes of longitude within our country — the East and the far West, the average being about $100 a month for the twelve months of the year in those divisions. It is shown to be about

two-thirds of that amount throughout the South and three-fourths of it in the middle West. Illinois is not included in this portion of the study. My belief, however, is that it would tend to reduce the figures as given. The great difference between the valuation of man's work in the schoolroom and that of the woman is almost pathetically shown. In the East her salary is less than one-half his; in the South relatively more, though absolutely less. Both in the middle and far West the discrepancy is less, but only in the latter division does it approximate a living salary for a person occupying the place that a high-school teacher is expected to take.

Average number of subjects taught.— The figures under this heading are both an inspiration and a warning; an inspiration inasmuch as they show at least for the group of schools studied that something approximating specialization has already come in one high school, and that teachers as a class are no longer expected to cover the entire curriculum: a warning to the prospective teacher not to narrow down too closely in his preparation and so find himself out of touch with school requirements. The figures show that for the country as a whole the teacher may be expected to cover roughly three subjects. Only in the far West is the average less than that, and even there for women alone. It will be noted that throughout the country the women teachers are expected to teach fewer subjects than are the men.

Years of experience.— The figures under this heading were to me surprisingly large, especially for the women. When we consider the tremendous high-school growth during the last ten years (9,489 instructors in 1893, 24,349 in 1903), and that the recruits to the teaching force have been largely recent graduates, we are forced to believe that there are many covered by our study who are well along in years. Still this is as it should be and as we would have it.

Relative efficiency of normal- and university-trained high-school teachers.— It was intended that the part of this report assigned to me should include, besides a statement of fact as disclosed by the study already presented, as full an expression of opinion as possible on the part of superintendents and principals as to what constitutes the ideal preparation for the secondary-school teacher. For two reasons it does not seem to me best to go into any extended discussion of that question in the printed pages of the Yearbook: first, because such a discussion is already in print; and, second, it seems to me that the

expression of fact as disclosed in the tabular study is essentially an expression of opinion as to what should be. The printed material to which I refer occurs in Professor Luckey's *Professional Training of Secondary Teachers.* Since, however, it is possible that many have not yet familiarized themselves with his valuable piece of work I shall quote without comment the summary of his canvass of opinion:

As a further illustration bearing upon the same point answers were obtained from over one hundred city superintendents to the following questions: "In selecting a new teacher, other things being equal would you prefer (*a*) a normal-school graduate, (*b*) a college graduate with, or (*c*) without professional training?" The results show that for the grades (elementary schools) 52 per cent. prefer normal-school graduates, 44 per cent. prefer college graduates with professional training, and 4 per cent. prefer college graduates, but do not consider professional training necessary. For high-school teachers 84 per cent. prefer college graduates with professional training, 10 per cent. college graduates without professional training — "The teacher is born, not made;" and 6 per cent. prefer normal school graduates because "they are more efficient teachers," "waste less time," and "make up for lack of scholarship by skill in teaching." It is interesting to note that the younger city superintendents are almost unanimous in their preference for the professionally trained college graduate.[1]

This quotation corroborates in a way my feelings stated as the second reason for not taking up an extended discussion of opinions; namely, that the facts express the opinion, at least in so far as conditions can keep up with opinion. To illustrate: The tabular study shows that 12 per cent. of our high-school teachers are normal graduates, and Professor Luckey finds that of the 100 city superintendents no larger percentage wanted teachers with that preparation. If our percentage of 12 of normal graduates holds good for the entire high-school teaching force of the country, about 3,000 of that teaching force are normal-school products; but during the last ten years the public and private normal schools of the country have graduated roughly 75,000 teachers. It would be folly to suppose that the high schools could not secure a larger percentage of them if they desired. It is possible that the small percentage of professionally-trained college graduates in high-school work, does not quite so fully express the preference of the high schools as in the previous instance; yet I am inclined to think that we of the pedagogical departments must take it as something of an evaluation of our work. Certainly if ten years

[1] Luckey, *Professional Training of Secondary Teachers,* pp. 175, 176.

from now anything like the meager showing exists we shall be forced to do so. For at present pedagogical courses are offered in nearly three hundred colleges and universities, and at the rate we are now turning out students we could in four years' time replace every high-school teacher in the country with material from our departments. If as the old ones drop out, we do not do so, it will be because our product is not wanted, and a study of facts would certainly be a study of opinion as expressed by school officers in securing teachers.

Summary and comparison.— To summarize briefly the training of our high-school teachers as a class: All have taken the equivalent of eight years of elementary school work and four years of a secondary grade. Roughly 10 per cent. stopped at this point. Twelve per cent. continued through the two years of the normal-school course. Of the men 70 per cent., and of the women 53 per cent. — a little more than 60 per cent. in all — continued their work through a four years' college course, while 8 per cent. more who started upon such a course fell out by the way. These, however, were more than compensated for by roughly 13 per cent. who supplemented their college course with one or more years of graduate work, twenty-nine out of our three thousand (Illinois not included) going on for the doctorate. The remainder of our 100 per cent. of high-school teachers have had more or less special instruction which cannot be measured in academic units. Of our college men and women 5 per cent. had had pedagogical instruction, some of them a little practice-teaching.

On the whole, this is an encouraging record, giving, as it does, an average of roughly sixteen years of educational preparation. For purposes of comparison, however, it might be well to note what the leading European nations are doing in the way of preparation of their secondary-school teachers. In England conditions are much worse than with us, both adequate secondary-school system and special facilities for providing a teaching force being lacking. For France a comparison is not easily made. But in Germany, which certainly leads all the European nations with its system of secondary schools, conditions are such as to make comparison easy. There the secondary schools are all under government control, and the training of the teacher is such a definite procedure that every step can be followed. In Prussia, which may be taken as a type of the German states, the child destined to be a teacher enters the Gymnasium at about nine years of age, after roughly three years of preliminary schooling, and

continues his gymnasial course for nine years. He then enters the university and he spends three or four years there — more frequently the latter — before undertaking his *Staatsexamen.* This is a very serious test of power, including the writing of themes as well as both written and oral examination. An entire year is usually devoted to it. Upon its successful completion a certificate of fitness to teach *(facultas docendi)* is granted and the candidate for schoolroom honors enters the *Seminarjahr.* This is spent at any one of a number of institutions under advanced pedagogical instruction. It is followed by a *Probejahr,* spent as a practice-teacher at some designated *Gymnasium.* This course having been completed, the candidate is placed on the waiting list with the probability of waiting several years before receiving an appointment. But when this comes he is sure of a permanent government position during his years of active life and a pension for the remainder of his days.

If these various steps are counted it will be seen that the teacher in the Prussian secondary school has spent nineteen years at least in his educational preparation and the number is frequently more. There are, too, no short cuts. This is in marked contrast with our own minimum of twelve years; the limit of fourteen years, which is considered respectable, the average of sixteen years and the maximum of nineteen years attained by so few as to be a negligible quantity. It is true that years spent in preparation are not the only factors to be considered in the making of a teacher, yet after all the time investment is one not to be neglected.

The minimum standard of preparation.— It is the opinion of the writer that our high-school system can never fully perform its function nor its teachers attain the status of professional respectability which should be theirs, until they have invested at least four years' time in the academic side of college work, with at least one year's graduate work devoted largely to a theoretical and practical study of school problems. This investment of time can only be gradually brought about, but I am convinced that the not very distant future will see it.

IV

THE PRESENT PROVISION FOR THE EDUCATION AND TRAINING OF SECONDARY TEACHERS IN THE UNITED STATES

MANFRED J. HOLMES
Illinois State Normal University

The increasing annual demand for secondary teachers.— In 1889–90 there were 9,120 teachers in public high schools, and 7,209 in private schools of the secondary class in the United States.[1] In 1901–2 these numbers had increased to 22,415 for public, and 9,903 for teachers in private secondary schools respectively. The average annual rate of increase of public high-school teachers for the thirteen years was about 1,000. The character and vigor of public high-school growth during the last three years will warrant the assumption that this rate of increase has at least been maintained; therefore there must be about 25,000 teachers in our public high schools at the present time (1905).

How many teachers are added annually to the high-school teaching force? To find this we shall need to add to 1,000, the normal annual increase, the number of those who fill the places of teachers that yearly quit the high-school field; but this number is not shown by any available statistics. It is entirely safe to estimate that 15 per cent. drop out each year. (E. J. Bangs, Assistant Superintendent of Public Instruction of Illinois, estimates the percentage at 15 to 25 per cent. George B. Aiton, now nearly fifteen years State Inspector of High Schools of Minnesota, says: "In my judgment, the average term of service of the high-school teacher in this state is not over four years. I exclude men who become superintendents. There are, of course, many who remain in the work for life. Many others teach but a year, two years, or at the most, three years, before marrying. I think I am safe in saying that in Minnesota from 20 to 25 per cent. drop out annually, never to return." In the light of this statement it should be remembered that Minnesota is one of the states in

[1] *Report of the Commissioner of Education* [1902], Vol. II.

which the law prevents persons with less than college graduation from competing for high-school positions.) This means that 3,750 must be added to 1,000, making approximately a total addition of 4,750 to the public high-school teaching force each year. The number of additional teachers required each year by private secondary schools may be conservatively estimated at 1,000, making an estimated total of 5,750 to be added annually to the teaching force in both public and private secondary schools in the United States. This estimate is safely below the actual demand.

The problem stated, and method indicated.— It is the aim of this division of our present study to consider what the universities, colleges, and normal schools are doing toward the education and training of these 5,750, and probably more, candidates that yearly swell the list of secondary teachers. To reach this aim it has been necessary to get at three sets of facts and conditions and examine their relation to each other as well as their significance in the study as a whole; first, the number of actual secondary teachers who have availed themselves of these opportunities for special preparation, and the extent to which they have thus availed themselves. This first set of facts and conditions was included under division III of the general subject, and has been investigated and presented by Professor Dexter. Second, the character and extent of the courses offered by universities, normal schools, and colleges for the preparation of secondary teachers; and third, the number of prospective secondary teachers who take these courses. In addition to the second and third sets of facts, which are considered in this division of the study, the present unsatisfactory status of the preparation of secondary teachers seemed to make it advisable to gather a concensus of opinion as to how universities, colleges, and normal schools can more effectively and fully meet the demand for better-prepared secondary teachers. I have therefore given this a prominent place.

Some of the facts for the basis of this division of our study were already at hand. I should especially mention Professor G. W. A. Luckey's *The Professional Training of Secondary Teachers in the United States,* and the *Reports of the Commissioner of Education.* But the present study required data both different from and supplementary to those already available. I therefore sent the following letter and questionnaire to all the public normal schools, and to 159 universities and colleges, including all the larger ones and all such

as reported to the Commissioner of Education a fair representation of students in "teachers' training classes." In addition I sent to some of the city training schools and the larger private normal schools.

ILLINOIS STATE NORMAL UNIVERSITY
DEPARTMENT OF
PSYCHOLOGY AND GENERAL METHOD

NORMAL, ILL., October 25, 1904.

MY DEAR SIR:— The problem for investigation and study now before the National Society for the Scientific Study of Education is the preparation of teachers for our secondary schools; and the next *Yearbook* will be entirely devoted to this subject.

It falls to me to report upon the present provisions made for the preparation of high-school teachers, and the number of persons taking advantage of such provisions in our universities and normal schools.

I know what it means for a busy man to take on collateral and extra duties, but I sincerely believe that the importance of this study will enlist your cordial and prompt co-operation to the extent of giving the data called for by the accompanying blank. If all the questions cannot be answered, please answer all you can, and I shall highly appreciate the courtesy and favor.

Thanking you in advance, I am

Very truly yours,
M. J. HOLMES.

PRESENT PROVISION FOR THE EDUCATION AND TRAINING OF HIGH-SCHOOL TEACHERS

Name of School.....

Address.....

I. Courses offered to prepare for high-school teaching.

Name, and Length of Courses (Send marked Catalogue if preferred)	Enrolled in These Courses			Academic Requirements for Admission to these Courses
	1904	1903	1902	

(Space)

II. To what extent do these courses coincide with those for elementary teachers?

(Space)

III. Is the amount of observation and practice under expert criticism required in preparing for high-school teaching the same as that required for elementary? If not, why?

(Space)

IV. How can the universities and normal schools more effectively meet the demand for better educated and trained secondary teachers?

(Space)

Return to
MANFRED J. HOLMES,
Normal, Ill.
(Stamped envelope inclosed)

Signed.....

Extent to which universities, colleges, and normal schools are supplying the annual demand for educated and professionally trained secondary teachers.— The returns show that about three-fifths of the universities, colleges, and public normal schools responded. A very few of those that are known to be doing anything definite in the line of preparing secondary teachers failed to respond; hence, the probabilities that the data are representative amount almost to a certainty. The following table offers a view of some of the pertinent facts concerning extent of provision for preparing secondary teachers in the United States:

	Universities	Colleges	Public Normal Schools	Total
1. Number of schools reporting.....	50	42	93	185
2. Offering pedagogical instruction for secondary teachers, but intended for elementary also.....	20	13	17	50
3. Courses for secondary teachers differentiated from and in advance of the elementary.....	16	8	16	40
4. Having courses for preparing secondary teachers only.	5	3	..	8
5. Preparing for elementary teaching only.....	3	10	60	73
6. With no courses for teachers excepting regular academic.....	6	8	..	14
7. Requirement for admission: Jr., Sr., and post grad., usually, for universities and colleges. In normal schools only advanced students and graduates are admitted to courses looking to high-school teaching.				
8. Having practice-teaching, or observation	21	16	90	127

It should be borne in mind that most of the largest and most of the best institutions of higher education are represented in the figures; and as said before, there were but few universities and colleges known to be doing anything definite and serious toward the training of secondary teachers, that did not respond. Therefore, statistics of this group will represent special provision for and output of prospective secondary teachers considerably if not far above the average for the whole number of colleges and universities in the

United States. It should be noticed that (uniting 5 and 6 in table) about 18 per cent. of the universities and 40 per cent. of the colleges make no provision for the training of secondary teachers beyond the regular academic courses. (The percentage for universities should be lower and that for colleges higher, because some of the universities in name are only colleges in fact.)

The question of how many prospective secondary teachers avail themselves of the provision for special preparation is of more immediate importance to us; but it is also more difficult to answer. My questionnaire aimed to get the number of prospective secondary teachers enrolled during three successive years. These results I intended to compare with Professor Dexter's findings; but almost without exception the numbers reported enrolled included all prospective elementary teachers. From collateral data given one is led to think that much less than half of all students enrolled in pedagogical courses in colleges and universities go into high-school work; although from some of these institutions practically all go into that field. It is safe to say that only a small proportion of the 5,750, or more, teachers entering the secondary field each year come to their work with any professional preparation. We therefore have upon us a large and serious problem to supply enough adequately prepared teachers for our high schools.

Thus far we have been considering the extent of provision made for preparing secondary teachers. We now pass to an examination of the content.

Character of the provision for preparing secondary teachers.— It is not intended that this study shall repeat anything that has already been printed in available form. For a full consideration of this question, therefore, the reader is referred to the bibliography at the close of division V; especially do I suggest Prof. G. W. A. Luckey's *Training of Secondary Teachers in the United States.* I believe every serious student of our public high schools will read this book, which is a pioneer in its line and most helpful. But Professor Luckey's book fails to give adequate consideration to at least two important phases of the general question. First, it does not show with sufficient clearness the fact that the need of more well-trained high-school teachers has compelled some of our normal schools to take hold of the problem in a large, serious way to help meet the demand. All that the universities and colleges are doing supply but

a small part of the great number that must be added to the high-school teaching force each year. Second, he leaves the reader without an understanding of the character of the work these normal schools have necessarily assumed in this line. Then, there is one sin of commission, which consists in the assumption that there should be a strict division of labor between universities and normal schools, turning over to the universities the preparation of secondary and higher teachers, while normal schools take care of the training of elementary teachers.

One must agree with Professor Luckey when considering the question merely from a historical and *a priori* standpoint; but the problem is not one that can be settled by tradition and theory. It is a problem that involves a present condition which must be met now to prevent arrested development and great loss of effective service in one of our most valuable democratic institutions — the public high school. It is of doubtful wisdom to close the question of scope and function of institutions only partially formed, and still capable of new adaptations, as our normal schools are, to meet the growing needs of the life which they exist to serve. The nature and extent of the supply and demand presses the question into the form that President Lord has given it on page 83. Only a few of our colleges and not many of our universities have taken hold of this problem with the same earnestness and devotion that they take hold of their other work; nor, apparently, with a serious sense of their responsibility in the matter. A larger number of better-prepared high-school teachers must be had, and the present outlook seems to indicate that some of the normal schools will have to be equipped to help out the situation.

One can conceive a normal school liberal in its culture, advanced and superior in scholarship, with ample and appropriate opportunity for prefessional training, environed and informed with those influences that make for strength of character, and force and excellence of personality. Such a normal school here and there throughout the country would be unsurpassed in the effectiveness and the value of its service. Such a course should be supplemented by travel, and residence at a university for special graduate and research work. Such would be a normal college, and would furnish all that is needed for the education and training of secondary teachers, excepting advanced specializing and that necessary view of the world which comes through travel and contact with men and things. In its

proper place will be shown what some of the normal schools are doing in response to this demand for preparing secondary teachers.

The different classes of organization deserving consideration that at present contribute to the preparation of secondary teachers are (1) teachers' colleges (or equivalent) organized co-ordinate with other colleges at a university; (2) departments of or courses in education at universities; (3) colleges, in the true and proper sense of that word, that have a department or courses in education; (4) normal colleges that offer full collegiate academic courses, included with and in addition to which adequate provision is made for the professional education of secondary teachers; (5) normal schools that offer special courses and advanced electives to help meet the crying demand for more and better-trained high-school teachers. We shall now examine the content and scope of provision made by these several classes of school and organization.

(1) *Teachers' colleges, or their equivalent, at universities.*— Of these there are now four; namely, Teachers College at Columbia University, The School of Education at the University of Chicago, Teachers College at the University of Missouri, and the College (?) of Education at the University of Texas. The oldest of these and the one thus far best developed is Teachers College at Columbia. It is rising into great meaning and dignity as a national factor in the education and training of teachers. All the teachers' colleges will no doubt take pretty much the same trend in scope and character of work; so it will suffice to indicate the provisions at Columbia for preparing secondary teachers.

The courses may be divided into two main groups; (1) general professional courses, and (2) special professional courses. The first group includes, in the main, all that body of knowledge that every teacher needs, whether he teaches in the university, the normal school, high school, or the elementary grades. The second group includes a knowledge of the subject-matter and the method of the subjects that make up the high-school courses. The following may not include all that is offered for secondary teachers at Columbia, but it will be enough to show scope and character. I cite from Teachers College Announcement:

I. General professional subjects.

History and principles of education.— The aim of this course is to present the essential features of educational thought and practice of the past as

a basis for the more detailed historic, philosophic, and methodic study of the principles of education as formulated in the present.

Modern educational theory.

Practicum in philosophy of education.—The purpose of this course is a somewhat detailed examination of the fundamental principles — philosophical, historical, and psychological — which underlie a scientific theory of education, considered as a human institution. The processes and the problems of education are examined from the standpoint of the history of civilization and the doctrine of evolution, and an attempt is made to formulate a philosophical basis for educational doctrine and practice.

School administration (organization and management).

Educational psychology.— This presents the general principles that control successful teaching so far as they can be derived from psychological laws and from the study of school practice. It prepares students for general classroom work and for courses in the methods of teaching the separate subjects. The work in the sections is specialized to meet the particular needs of the several classes of students.

Child-study.— This course is designed to present the facts, so far as they have been scientifically determined, concerning the nature and development of the mind during childhood and adolescence, with special reference to the meaning of these facts to the teacher.

II. Special professional subjects.

Secondary education.— This course will consider the aims and the subject-matter of secondary education, the systems of instruction prevalent in American and in European secondary schools, the arrangement and adjustment of the curriculum; it will dwell on the general questions of sequence and choice of subjects, on equipment of the secondary school, on its relations to the elementary school and the college. Students will be expected to study the organization and management of the various types of secondary schools in New York and vicinity (the Horace Mann High School, the public high schools, and typical private schools).

Practicum. The secondary-school curriculum.— Students are required to undertake the study of special problems in secondary-school work, to investigate the conditions underlying various types of schools in this country and abroad, and the effect of these conditions on the curriculum; special attention is directed to the needs of the public high schools.

Seminar in secondary education.

Theory and practice of teaching biology in secondary schools.— The work embraces a study of the aims, materials, and methods involved in the teaching of botany and zoölogy in the secondary school, and is accompanied by practical work consisting of critical observation of the work as carried on in the Horace Mann School.

Practicum in botany and zoölogy.— A critical study of materials and methods employed in the teaching of botany and zoölogy. . . . . This course is designed for intending teachers in secondary schools and colleges, and for those preparing themselves for supervision.

Theory and practice of teaching Greek in secondary schools.— In all the work the needs of the teacher in the secondary school will be kept steadily in view.

[The courses in the theory and practice of teaching secondary-school subjects include, in addition to the above, English, history, mathematics, art, domestic art, manual training, Latin, German, French, geography, physics, and chemistry.]

Three years' college work in the subject is the minimum academic standard for admission to a method course.

The same amount of practice-teaching and observation is required of prospective high-school teachers as for those looking to elementary work.

Practical work consists of observation, assistance, and class instruction in the Teachers College schools. Observation includes systematic study of the selection and arrangement of materials for a series of lessons designed for a particular class, a consideration of various methods of presentation, observing the presentation of the several lessons, or series of lessons, by the regular teacher, and rendering a critical summary of the results obtained. Practice in teaching is given first in the instruction of individual pupils, or small groups of pupils, who may be in need of special assistance, and later in the regular instruction of an entire class or grade. The minimum number of hours which must be devoted to practical work is indicated in connection with the several courses. All students are required to do the full amount of practical work prescribed for any course; advancement from observation to assistance, and from assistance to class teaching, depends entirely upon the candidate's ability to do the work required.

Dean Locke, of the School of Education at the University of Chicago, Dean A. R. Hill, of Teachers College at the University of Missouri, and Professor Sutton, of the College (?) of Education at the University of Texas, all report solid improvement and gratifying prospects. The School of Education at Chicago has taken about the same form and scope as her sister at Columbia.

(2) *Departments of education at universities.*— The most of the universities have their pedagogical work organized as a "department of education." Quite a number do not give the professional preparation of teachers enough attention to warrant an independent and distinctive designation of that work, though a few that have not

yet organized their pedagogical courses into a "department" are doing work on a par with those universities that have the work so organized. The courses of any one of several universities could be cited to represent this class of provision for preparing secondary teachers. For convenience I let the courses offered at Brown University represent this class. The data are taken from the catalogue.

History of educational theories and institutions.

A critical study of modern education.

The fundamental principles of education.

Seminary in educational problems.

The psychology of education.— The principles of psychology applied to method in education and instruction.

The hygiene of education.— The hygiene of growth. Play and fatigue. Sight and hearing. School diseases. School architecture. Warming, ventilating, and lighting. Sanitation. School furniture. School programs.

Practical introduction to teaching.— Organization of school systems. Management and discipline of classes. Observation of good teaching. Practical applications in method.

Methods in secondary-school studies and the organization, equipment, and management of secondary schools.— Required of student-teachers. Elective for graduates and experienced teachers. Each term may be elected separately. Importance and meaning of secondary-school studies and their organization into a curriculum; method as applied to each subject and the resources at the command of the teacher; such a view of the work of the school as is necessary to the teacher in order that he may understand the whole and co-ordinate his work with the whole. The following studies receive especial attention: first term, Latin and modern languages; second term, history and English; third term, science and mathematics.

Training in practical teaching (through the year).— Practice-teaching. Control and conduct of classes, plans for single lessons, and for "method-wholes," observation of the work of experienced teachers, reports, private conferences. Opportunity for practice-teaching in the high schools of the city is given to capable graduate students, and in the grammar schools to a limited number of seniors preparing to teach in the grades or to fill places as principals or superintendents.

By special arrangement with the School Committee of the City of Providence, student-teachers are appointed to places in the Providence high schools. Appointments are made from members of the Senior class who have pursued undergraduate courses in Education. These student-teachers are of two types. Those of the first type — of whom there are at least six (three of each sex) — under the guidance and direction of experienced teachers, have the control and conduct of classes. The time required each day is somewhat more than half

the usual school session. They receive a salary of four hundred dollars a year from the city. Those of the second type are occupied in a similar way from three to five hours a week. They receive no remuneration from the city. An unusual opportunity is thus afforded student-teachers to gain a thorough knowledge of the theory of education and at the same time practical experience in the art of teaching. In making appointments to places as teachers of the lowest grade in the Providence High School preference is given to those who have successfully accomplished the course as student-teachers. In this respect student-teachers of the second type have the same status before the committee that makes appointments as those of the first type.

(3) *Colleges that have courses or a department for preparing secondary teachers.*— A small proportion of the colleges give any considerable serious attention to the professional preparation of secondary teachers; but some are doing valuable work in both scope and character. The courses offered at Cornell College, Mount Vernon, Iowa, are here used to represent the best of this class.

Recent endowments for both the department of Education and that of Psychology have made possible most excellent library facilities in these fields. The leading works in English in both lines are now in the library, and additions are constantly made.

In addition to the courses outlined below, a year's course of elementary studies in Education is offered in connection with the work in the academy.

Graduates of the college who complete two or more years of work in Education receive special recognition and indorsement by being granted a professional diploma in Education. The following courses are offered:

School organization and management.

Psychology and teaching.

History of education.

Genetic psychology.— A systematic course in theories of mental development and of the psychological basis of educational theory. The psychology of adolescence will receive special attention, and this will be followed by a topical survey of recent literature on educational psychology.

Secondary education.— The history of the development of the American high school. Its purpose, organization and relation to the community; construction of courses of study; various problems peculiar to the high school.

Principles of education.— The meaning of education, its significance to the individual and to society. The relation to the two chief factors in the educational process — the subject-matter and the child. The function of the teacher and the school. The basis of method and its relation to teaching. A study of the child as an educable being.

The high school: educational practice.— This course seeks to organize the results gained in the previous courses and to make application of educa-

tional principles particularly to high-school work. The foundations of method, and methods of teaching the various branches in secondary schools, are the principal lines of study. An opportunity will be given to pursue topics of study having in view the fitting of the student for some particular line of school work.

(4) *State normal colleges.*— In name or in fact this class of school is represented in nine different states; namely, Alabama, Colorado, Iowa, Michigan, Missouri, Montana, New York, Oklahoma, and Tennessee. They vary in their constitution, and in this discussion reference is had only to those that offer what is designed as the equivalent of a collegiate academic course, conferring degrees. This type of normal school has arisen in response to the demand for a school that will provide professional training for teaching and at the same time furnish ample means for liberal education. There are valid reasons for thinking that these schools will be able to render efficient service in preparing for secondary teaching. Whether they do this will be determined by several factors, the most determining of which is the course of study. I say this because the course of study will to a large degree determine the standard of the teaching force employed.

We shall now examine one of the courses offered at one of the best of these schools to see its scope and content, and judge how well it is adapted to meet the requirements, both academic and professional, of preparing teachers for secondary schools. If this course is not representative it is because it is of a higher standard than the average offered by this class of school. I cite the course leading to the A.B. degree in Education at the State Normal School of Iowa, quoting portions of the catalogue that have an explanatory bearing.

Bachelor of Arts in Education.— A four-year course of study beyond the preparation granted by secondary schools. The requirements for graduation are equivalent to university courses. Preparation for teaching in high schools, for administration in principalships and superintendencies demands much more than scholarship; as a knowledge of teaching should be also attained and that knowledge should be both theoretical and practical. It is not enough to be a scholar or to have studied the theories of education in class work; there should also be training in the expert elements that constitute the instructor, the supervisor and the executive. . . . . To meet the needs of a growing class of students who are fitted by nature and by scholarship for high-school teaching and for executive duties, the following conditions are made for those who desire to be candidates for the degree Bachelor of Arts in

Education. This is not a new movement at the Normal School because the Board of Trustees at the organization of the work in 1876 adopted this degree, this standard of graduation, and this kind of course of study for teachers. For the first time the plan is outlined, as the needs and requirements of the present time dictate.

For unconditional admission to the first year of the course, the applicant must present credentials from secondary schools certifying to fifteen years of work selected from the following lines of study:

I. English (1) Composition and Rhetoric.....one year
(2) Literature .....one year
II. Mathematics (1) Algebra and Plane Geometry.....three years
(2) Solid Geometry and Trigonometry.....one year
III. Science (1) Physics.....one year
(2) Chemistry .....one year
(3) Zoölogy .....one year
(4) Botany and Physiography.....one year
IV. Latin (1) Lessons, Readings and Cæsar.....two years
(2) Cicero and Vergil.....two years
V. German (1) Lessons, Readings.....one year
(2) Minna von Barnhelm, William Tell.....one year
VI. Foreign Languages. Greek and French will also be given credit if presented as preparatory work.....each two years
VII. History and Civics (1) General and special.....two years
(2) Civil Government and Economics .....one year
VIII. Since this is a teachers' school, special requirements in music, drawing, or in other branches not here listed will be given allowance for special courses where such work is essential.

[These entrance requirements are based upon the standards indorsed and accepted by the College Department of the Iowa State Teachers' Association.]

The degree Bachelor of Arts in Education will be conferred when the candidate has secured forty-eight term-credits, the meaning of term-credit being twelve weeks' work of five lessons a week.

Academic studies.—[Thirty-six of these credits are academic, and twelve professional. Three credits in English, and three in mathematics are "required constants;" the remaining thirty of the academic studies are elected. Two years of literary-society work, and two years of physical training are required without credit. The elective studies must be taken from the following groups: English, mathematics, history and civics, science, Latin, German, physical training, public speaking, and vocal music. Excluding the last two, the groups offer from six to eleven courses each.]

Professional studies.—The assignment in these lines consists of twelve

term-credits to be assigned from psychology, methods of instruction of various kinds, school management and supervision, history of education, philosophy of education, American education, modern education, and specific work in the training department. Teaching classes, inspecting classes at work, supervising the work of teachers, criticism of work being done constructively and helpfully, details of executive business, etc., will all receive attention as the individual scope of the student's future plans will permit. This field of study will in each individual case be planned by the faculty and definitely outlined when the plan and the course to be elected is known. Such an arrangement allows proper differentiation and recognizes the individual capabilities of those in preparation for high grades of professional teaching.

In addition to the above other advanced courses are offered lead- to the Bachelor's degree in Didactics, and the Master's degree in Didactics.

Two large, and one might say precious, interests are involved in this movement toward state normal colleges; first, the better education of the people through well-prepared teachers; and second, the ideals and respectability of American scholarship. These normal colleges have placed themselves under responsibility to both these interests, and to justify their existence and establish their acceptability they must acquit themselves with creditable efficiency.

(5) *State normal schools that offer advanced courses and electives for preparing high-school teachers.*— As in the case of the normal colleges, most of the colleges proper, and many of the universities, this group of normal schools gives the same general professional courses to all students whether they are intending to teach in elementary or in high-school grades. The specific preparation offered is found in advanced academic subjects (chiefly electives), and method of the high-school studies. At some of these schools an optional system is in vogue, whereby a student may substitute advanced high-school subjects for studies in the regular course. Judging from the returns, there are many normal schools that are doing considerable along this line. The practice department of these schools gives the prospective high-school teacher experience in the grammar grades, and sometimes in the high school.

It will be well to let some of these schools speak for themselves.

ALBERT SALISBURY, State Normal School, Whitewater, Wis.— The normal schools of Wisconsin do not have any course of study especially designed for those intending to teach in high schools. . . . . Many of our graduates do

teach in high schools; some of them are principals of high schools and city superintendents. . . . . We encourage persons looking toward high-school work to do postgraduate work; and many of them continue from half a year to a year, taking culture studies, for the most part, that were not included in their particular course.

One thing more ought to be added. Graduates from our advanced course are admitted to junior rank in our State University, which provides a course for normal graduates known as the Philosophical Course. Many graduates of our Wisconsin normal schools pass on to the university. We consider this to furnish an ideal course for high-school teachers. . . . . People who have taken this course, graduating first from the normal school and then from the university, are much in demand in this state for high-school positions.

J. M. GREEN, New Jersey Normal School.— Only those who are graduates of four-year high-school courses before coming to us could think of becoming teachers in high schools. For them there is a two-year course of twenty-four units, twenty of which are required and four elective, and an elective year in which they may confine their time to six units, three at a time. A person taking this course would be capable of teaching in a high school the subjects in which she has specialized, quite as well, I think, as a graduate of an ordinary college course, so far as her knowledge of subject-matter is concerned, and better so far as her knowledge of method is concerned. I think there are about ten or twelve taking this course all the time.

DAVID FELMLEY, Illinois State Normal University.— One-fourth of the entire school expect to become high-school teachers.

Thus far we have considered the magnitude of the annual demand for secondary teachers, and the extremely inadequate supply of specially-prepared persons to meet that demand. We have also examined the character and scope of the provision made by our universities, colleges, and normal schools for preparing secondary teachers. Of the points that yet remain, I shall touch but three.

Practice-teaching.— There is great difference of opinion as to the amount of practice-teaching that is necessary for prospective high-school teachers. The following responses to point III in the questionnaire will show the trend of thought:

DAVID S. JORDAN, Leland Stanford University.— There is no amount of observation and practice under criticism now required for this particular [state] certificate. It is proposed soon to require a certain amount of this in addition to college graduation, not as a part of it.

G. W. A. LUCKEY, University of Nebraska.—[Professor Luckey discusses this in his *Professional Training of Secondary Teachers,* pp. 207–13.]

DAVID R. MAJOR, Ohio State University.— Unfortunately our students have no opportunity for either observation or practice.

J. R. STREET, Syracuse University.— No. College men and women do not need such minute drill as younger students.

W. S. SUTTON, University of Texas.— Up to this time no provision has been made for this very necessary work. It is hoped that a vigorous beginning will be made in the fall of 1905.

CHARLES DE GARMO, Cornell University.— Impossible to finance a secondary school for observation alone. Practice is out of the question.

FREDERICK E. BOLTON, State University of Iowa.— As yet we have no practice school. I hope that at some time we shall have a practice school or at least a model school where our teachers can have opportunity for observation and some practice. I do not believe it is necessary to have practice too extended. I think that many of our normal schools entirely overdo the matter of amount of practice. . . . . The universities have been at fault . . . . in that they have [had] no model schools or practice-schools. I think the education of the teacher is not complete without opportunity to work in such a school.

To what extent do courses for secondary teachers coincide with those for elementary teachers? — The returns show that much of the work done in the training of secondary teachers in universities and colleges coincides with that done for elementary teachers. The advantages and objections to this ought to be brought out clearly.

How can universities and normal schools more effectively meet the demand for better educated and trained secondary teachers? — That it is an imperative necessity to have more and better-prepared high-school teachers has been demonstrated. How improvement and extension of provision made can be brought about is an unanswered question. Some of the responses to this question are significant.

G. W. A. LUCKEY.— By mutual assistance, division of labor, and a more thorough study of the problem. (See pp. 228 ff. of his *Training of Secondary Teachers.*)

GEORGE H. LOCKE, University of Chicago.— I believe it is the function of the departments of education with school laboratories attached. I cannot believe in the training of secondary-school teachers away from a university.

DAVID FELMLEY, Illinois State Normal University.— The normal schools by furnishing (1) strong courses in the high-school branches, including discussion of the method of instruction; (2) courses in psychology and general method; (3) advanced courses to be obtained at the university.

HOMER H. SEERLEY, State Normal School, Cedar Falls, Iowa.— There is more to do than all [universities and normal schools]can accomplish in this field. Let the fit survive. Have respect for one another.

CHARLES DE GARMO, Cornell University.— Normal schools cannot do this work without extending their courses until they cover the work of the university.

E. M. SHACKELFORD, State Normal College, Troy, Ala.— This is a hard problem to solve. If we raise the requirement for admission, we can make the few who would graduate more efficient; but in doing so we cut out of these schools entirely a great many who are now trying to teach and who should be induced to attend for better preparation.

JOHN W. COOK, State Normal School, De Kalb, Ill.— (1) By having a high-school department for observation and training purposes. (2) By the organization of professional courses which shall be closely correlated with the work of such a training school.

C. C. VAN LIEW, State Normal School, Chico, Calif.— By having both supply experience (i. e., practice) courses to the amount of fully one-half of the professional work. Possibly by letting each, in lieu of something better, exchange those lines of work each can best furnish; i. e., the normal school, experience in teaching; the university or college, culture.

G. STANLEY HALL, Clark University.— In order to meet the need for better secondary teachers I think our universities and colleges must first appoint better men as professors of pedagogy and give them more liberty. Many who hold these chairs now are without any special qualifications except having taught. They do not read French or German and have little knowledge of philosophy or psychology, which topics are the Blackstone of pedagogy. Many of them, again, are inherently good men who would develop well if they had a chance; but they are obliged to work under the following handicaps: first, some must give much of their time to colporteur work among the secondary schools, examining them, and placing college graduates as teachers and corralling in students for the next freshman class. Half their time at least they must be drummers for the college.

The second handicap is they are not allowed enough academic freedom. For instance, they can talk about lower grades of education but they must stop short when they come to the university or the professional school. If they discuss these they interfere with the traditional rights of the President. Thus, being condemned to the lower grades only, their mental horizon is narrow, their course robbed of much of its dignity, and a fence, purely arbitrary, is run through the middle of their work.

Many of our academic professors of education have consciously or unconsciously, directly or indirectly, in view nothing whatever except more students for the college they serve, and this makes them interested in nothing but high-school work. They know or care little about the grammar schools, or still less the kindergarten, and they and the college textbook-makers have laid a heavy burden upon secondary education which they have tried to rob of its due

freedom and have made their work so distasteful that there is a silent but growing prejudice against their work.

Then, again, the fact that many normal schools have undertaken to train secondary teachers with faculties or other facilities that are inadequate to its purpose is another [handicap].

W. S. DEARMONT, State Normal College, Cape Girardeau, Mo.— The three state normal schools of Missouri decided two years ago to offer full college courses for the purpose of preparing teachers for the secondary schools. It is our purpose to make the normal schools of Missouri, teachers' colleges. I mean by that term that we are offering in addition to thorough pedagogical training, strong academic courses equal in every way to the undergraduate courses of the best colleges and universities. . . . . It is our intention to make the college course the course that teachers who are preparing for secondary work will take in the normal schools; . . . . and to have a high-school department of our training school for the purpose of affording an opportunity of observing and teaching in secondary work.

We believe that we shall not only be able to give teachers the academic training that is required for secondary work but thorough pedagogical training for the same work, also. I believe that the plan that has been adopted by the Missouri state normal schools is well calculated to do much toward solving the problem of better training of teachers for secondary work. We believe that our plan will result in college men giving more attention to elementary and secondary education than this class of men now give.

In summing up the opinions under the last question of the blank I find it easy to group the suggestions under quite definite headings, the chief of which are given herewith, each followed by the number of opinions that coincide on that point. The explicit statements only are recorded.

(1) By requiring higher standards of general scholarship and cultivation, 31.

(2) Courses especially designed for secondary teachers, including both subject-matter and the method of high-school subjects — more of these and longer in both universities and normal schools, 58.

(3) By better provision for observation and practice especially adapted to the needs of high-school teachers, 21.

(4) By professional courses for college graduates, especially designed to prepare secondary teachers, 35.

(5) By establishing and maintaining higher standards of professional preparation, especially through state and municipal legislation, 14.

(6) By having better teachers who do this work in universities, colleges, and normal schools, 10. (This was evidently meant to cover, in most cases at any rate, scholarship, character and personal traits, and skill.)

(7) By devising a more rational and satisfactory way of selecting and certificating these teachers, 5. (Some mentioned the great need of more carefully selecting young people peculiarly adapted personally to high-school work, and inducing them to enter the high-school field.)

(8) By a more effective exclusion and elimination of the unfit, 3.

(9) By making the science and art of teaching more a problem of dealing with individual lives than with subject-matter, 4.

(10) By having normal graduates take university courses, 3.

(11) By more careful study of high schools — what they mean, are doing, and what they need, 5.

(12) By improving the economic status of teachers — better salaries, longer term of service, promotion on merit, 5.

(13) By a more generous support of normal schools by the state, 2.

(14) By more and better summer schools for teachers, 2.

(15) By securing teachers with good athletic training, who can understand the physical needs of youth, and make sports yield their true and legitimate values.

(16) By establishing state normal colleges which shall furnish both cultural education and professional training, 6. (These schools are starting up with the zeal of a "calling," and the confidence of certainty that they are greatly needed.)

Conclusion.— In closing this partial presentation of provision made for, and opinion concerning, the preparation of secondary teachers one will hardly venture to make many comments, either critical or prophetic. Yet a few things are clear:

(1) That our middle schools have been called into being to serve a great and legitimate purpose in the evolution of democratic life and institutions. They are the meeting and unifying ground for rich and poor, high and low, Greek and barbarian. Our national life in its higher aspects of character and social service must be continually renewed by discovering and drawing up into itself through the high school those individuals that have natural capacity, talent,

or aspiration for the higher life of personal worth and service. Thus viewed, what a noble conception is embodied in our high-school system! And who can measure the splendid opportunity presented to those who are responsible for making the high school perform its full function?

(2) That the opinion of representative men in the high-school field itself is practically unanimous as to what constitutes the ideal secondary teacher.

(3) That the status and personnel of the present high-school teaching force is far from what it must be in order to give these schools their maximum of efficiency.

(4) That the present provision for the education and training of secondary teachers is entirely inadequate in extent, and in most schools that attempt preparation of secondary teachers, not very satisfactory in character. Some of the universities, colleges, and normal schools are making progress in the effective solution of this problem; but all these schools together supply only a small fraction of the teachers that newly enter the high-school work each year. Nor could they do much more if the demand were made upon them; because few of them are adequately provided with plant, equipment, and teaching force. But it is safe to say that no great demand will come until standards of preparation are advanced by legal act.

(5) That it is an entirely unsettled question as to what schools can now, and will hereafter best prepare for secondary teaching; and that at present all the help of all the schools that can do the work at all respectably is needed; that normal colleges appear to be a necessity in this field.

But the relative advantages and limitations of universities and normal schools in preparing secondary teachers is presented by a symposium of opinion in the final chapter of this book.

V

RELATIVE ADVANTAGES AND LIMITATIONS OF UNIVERSITIES AND NORMAL SCHOOLS IN PREPARING SECONDARY TEACHERS

LIVINGSTON C. LORD, President State Normal School, Charleston, Ill.
G. STANLEY HALL, President Clark University, Worcester, Mass.
HOMER H. SEERLEY, President State Normal School, Cedar Falls, Ia.
CHARLES DEGARMO, Professor of Education, Cornell University, Ithaca, N. Y.
C. C. VAN LIEW, President State Normal School, Chico, Calif.
EDMUND J. JAMES, President University of Illinois, Champaign, Ill.
J. N. WILKINSON, President Kansas State Normal School, Emporia, Kan.
M. V. O'SHEA, Professor of Education, University of Wisconsin, Madison, Wis.
L. H. JONES, President Michigan State Normal College, Ypsilanti, Mich.
CHARLES B. GILBERT, Many years' experience as superintendent of schools in large cities.

Some essential questions and theses logically arising out of this division of the study:

1. Opinion is now practically unanimous that the vital relation of the high schools to the welfare of the people demands teachers especially fitted and prepared for teaching youth.

2. What constitutes the best course of education and training for high-school teachers?

3. In what schools can these courses be most effectively offered?

4. Should not the National Society select a strong, representative committee to study question 2 and formulate the results of such study for printing in the Yearbook?

LIVINGSTON C. LORD
President Eastern Illinois State Normal School, Charleston, Illinois

The time has now come when the training of teachers for secondary schools should receive serious attention. Whether this work should be done in schools especially established for the purpose, or in schools connected with our universities, or in some of the state normal schools, is an open question. Each plan has its disadvantages, and there are strong arguments in favor of each.

The thing, however, which is of cardinal importance is that

teachers of high ability and special fitness be assigned to this work. Teachers who attempt to train secondary teachers must be of the highest character both in scholarship and in teaching skill; something more than lecturers or compilers of statistics; in scholarship, broad and in some things really fine; in teaching skill, sound not only in theory but also in practice; in thinking, not too ready to believe that every educational principle has been discovered and that every teaching act can be referred to such principle.

Finally, two conditions are to be avoided, each of which is worse than the other. First, the point of view of those of limited attainment, with alert but not profound minds, who, while helpful to those who expect to teach in primary schools, would not be respected by teachers preparing for high-school work; second, the point of view of the teacher of pedagogy with pretentious phraseology who discusses what he is pleased to call the pedagogy of a subject of which he knows little.

G. STANLEY HALL
President Clark University, Worcester, Mass.

I think preparation of secondary teachers should never be permitted in a normal school where primary teachers are trained, but should be entirely given over to the university. This is essentially the case in Germany, although terms and definitions vary a good deal. I think there is very little in common either in methods or matter in the curriculum proper for these classes of teachers. I have so often expressed my opinion more fully with the grounds therefor that I will not enlarge here.

HOMER H. SEERLEY
President State Normal School, Cedar Falls, Iowa

The education and training of teachers.—The preparing of teachers for their careers is a business which demands more than an opportunity to attend a good school and acquire a good grade of scholarship. Teaching public school is a profession of a high grade if the work is properly understood, as it involves the conduct of affairs of the most expert character. The right preparation of a teacher involves a knowledge of the philosophy, the theory and the practice of education in addition to the scholastic knowledge universally conceded. There is the necessity to acquire a right attitude, a true spirit

and the power of efficient instruction to be a teacher of importance and worth. Secondary education is not free from these necessary conditions as those who instruct in its field need just as much care and supervision in their right training, if they are to be superior in power and skilful in service, as is required of elementary teachers.

The university and secondary education.— The university idea of education does not necessarily require such a standard of attainment and professional excellence, nor does the university give such advantages and such courses of study; for it assumes that all secondary education has ended when the student enters college studies and devotes himself to higher education. It is also assumed by university management that when advanced courses have been completed in the college classes such person is specially well qualified for the profession of teaching in secondary schools. This assumption is far from the truth as there is not necessarily any such assurance of expert attainment and capability when the college graduation has been reached.

The normal school and secondary education.— The normal-school idea is variable because there is at present no uniformity of plan or effort; but as a rule the normal school proceeds on the theory that all training in secondary studies is not completed on graduation from a secondary school, and that there are advanced courses for teachers in the branches of study assigned to the curriculum of the secondary school that ought to be taken by all would-be teachers in said schools. The special function of the normal school is to give the right spirit, the correct attitude and the needed initiative to teachers in all the grades of the public schools and by a proper extension of the present program of studies, normal schools can give superior training and education for all kinds of secondary teachers and not go outside of their true and proper province. A rightly organized and equipped normal school must have more elaborate and extended opportunities as to apparatus and library for individual work and training than may be necessary for a college or a university, because the preparation of teachers involves more explicit study and accomplishment than the general courses that are given to students who are in preparation for law, medicine, and other special professions. The province of the normal school is to train kindergartners, primary teachers, elementary teachers, music teachers, art teachers, manual-training teachers, domestic-science teachers, physical directors, and

all other kinds of teachers that are needed for public schools of all grades, not excluding even those of the secondary school. It is also fitted in spirit and in tradition to do this work better than the university or the college because such institutions are not offering the courses and are not by tradition disposed to give the kind of opportunities that practical and expert public-school teachers positively need along the lines that the service expects and requires.

The demand to recognize a reasonable differentiation.— It must also be recognized that there is a necessary differentiation in educational training for the teaching career. There are innate differences between kindergartners, primary teachers, elementary teachers, and secondary teachers that are not obliterated by courses of study and scholarship. The secondary teacher is not such because he has had a more extended scholastic preparation. There is such a thing as individual fitness for becoming a primary teacher, and there is just as much individual fitness of another kind necessary for the secondary teacher. It is the individual fitness that is the first requisite and this can be found out by the person alone who is being prepared for a career. It is not possible to develop a primary teacher out of any woman who should undertake the study and the training deemed essential, nor is it possible to develop a secondary teacher out of anyone by submitting such person to the plans and the demands of a different course of education. Teaching is not a question of degree but of kind and the students must be differentiated as to promise as to kind, rather than as to degree of scholarship attained. Students who enter normal schools can almost all of them be trained for some kind of effective work as teachers, but they cannot all be made at the will of the management into primary teachers, or elementary teachers, or secondary teachers. The special type of mind, personality, and adaptability that an individual possesses decides the question of a career and these characteristics are not known before they enter school, for their training and education test their capabilities and decide their limitations. It is fair to every teacher being educated for such a career that he become what he can do best and most comfortably, so that his future has its largest possibilities. It is likewise true that a university education does not change a real primary teacher into a superior worker in secondary schools, for scholastic acquirements do not create gifts or capability.

The limitations in the preparing of secondary teachers.— The

limitations that are thus found in the experience of preparing secondary teachers are due to the tendencies and the purposes that are existing today in the organization of the university and the normal school; the former being assumed to be an educational institution for general culture, and the latter, as commonly organized and conducted, a technical school of small expectations, meager courses, limited equipment with no province to give opportunity for culture and scholarship. The normal school that has opportunities for advanced scholarship and broad courses does not for that reason become either a university or college as its organization, spirit, and management is totally different, making it just as efficient in preparing secondary teachers as it could make it in preparing primary teachers. The viewpoint of the normal school, its manner of conduct, its aim of instruction, and its results in training are such that it can never become either a university or a college and has little in common with them as educational institutions. These differences are pronounced, and they only need fair investigation to establish the fact of their existence.

The normal school as a public educational institution had its origin through legislative enactment, and has always emphasized the importance and the necessity of special instruction in the history, theory, and principles of teaching and of actual training through personal teaching under expert supervision, as the essential characteristics of a proper preparation for a successful teaching career. While this contention has not been cordially accepted by the university, it is to be recognized that as time has passed the merit and practicality of these ideas and principles have gained such headway that the universities have been compelled to establish chairs of education in the endeavor to meet public demand, and in some cases even have gone further and organized affiliated schools which are called "schools of education," "teachers' colleges," "normal colleges," etc.

Until the normal school had won its place and had attained the recognition of public esteem, it never occurred to any of the higher educational institutions that such work was either desirable or necessary. The particular objection that may be offered to this change of policy by the university is that it usually claims superiority over the normal school in this particular line of teaching, even when its requirements, standards, and courses are only equivalents to the normal schools, thus loaning its prestige and power as a higher institution to give rank to its graduates above their actual acquirements and

merits. All that the normal school has a right to ask is, (1) to be let alone in its endeavor to do its particular kind of work, and (2) if the universities duplicate its province, that they may be willing to call things by the right names and not assume that such work has become university work in reality by being under the direction of such a type of educational institution.

The example of increased opportunities.— To give a practical explanation, in conclusion, the record of the Iowa State Normal School is cited, not because its scheme of work is ideal nor its plans perfected, but because its organization permits the training of all classes and kinds of public-school teachers. This condition has existed for only a few years and yet its graduates have already taken an active part in the work of secondary education. It is true that they are among the more successful teachers, and that their influence upon the spirit and the tendencies of education is unequaled by any equivalent number of teachers who have received their training in other kinds of educational institutions. The following table will show what is now the work in secondary education of such graduates. For complete information the following will be the order: Column I will give the kind of work done: Column II the total number of normal-school graduates in such work; Column III the number of these graduates who have also graduated afterward from colleges or universities; and Column IV the number who have received all their preparation in the normal school.

High-school principals - - - -	26	7	19
City superintendents - - - -	39	16	23
Department teachers - - - - -	76	18	58
Village principals - - - - -	98	7	91
Assistant principals - - - - -	50		50

The importance of training.— There is much value to real training in actual teaching even in preparing to be secondary teachers, a training which marks a graduate as a specialist in public-school work. The normal school requires this as a part of its assigned work and declines to accept an equivalent, therefore giving a technical education that has absolute value and strength in its serviceableness. Actual teaching under sympathetic yet expert and critical supervision gives a spirit, a mastery, and a status of broadminded effectiveness that are essentials in an educator. These are facts, not fancies; they are

truths, not fictions; and if these things are to be possible in universities or colleges they must become in these respects normal schools in reality, though they may be known by more exalted names.

CHARLES DEGARMO
Professor of the Science and Art of Education, Cornell University

A fundamental distinction between normal schools and universities in their relation to preparing secondary teachers.— The most obvious distinction between the normal school and the university as a training-ground for secondary teachers is that the normal school is obliged by its conditions, its primary aims, and its traditions, to devote its chief energies to the preparation of elementary teachers. Only in a large and general way can it devote more than a fraction of its attention to the training of teachers for secondary schools. The education department of the university, on the other hand, turns naturally to secondary education in its efforts to train teachers, for barely one in a hundred of its students expects to become a grade teacher. It is true that a number of young men expect ultimately to be superintendents, and thus desire familiarity with the problems and methods of elementary education. But even here, the demand is not so much for the details which the normal school emphasizes, as for the larger philosophical view that takes in the whole system of public education, and that furnish comparative estimates of the educational conditions, systems, and results of all civilized countries.

This fundamental difference of aim, arising from the fact that in the main the normal school prepares teachers for elementary, and the universities for secondary schools, is reflected throughout the two classes of institutions. A few of these differences will now be pointed out.

Comparison as to scholarship.— In scholarship the university student selects fewer studies and pursues them longer by more intensive methods than is practicable in the normal school; thus preparing himself more thoroughly for the departmental work of the high school. We must rid ourselves of the idea that difference means inferiority. It is simply difference. In the normal school scholarship is in the nature of the case more general, less intensive in character, and less exhaustive than in the university. This is no reproach, for the normal school necessarily looks at education from the standpoint of the pre-adolescent period and childhood. In my opinion, the

normal school and the university should not tend to approach nearer to common scope, intensity, method, and aim of scholarship, but on the contrary should tend still further to differentiate. The college ideal of scholarship, so longed for in some normal schools, is not the best ideal for these institutions, because the professional aim of the normal school is so different from that of the university.

Indirect professional training.— Closely related to the matter of scholarship is the indirect training in methods given in the two classes of institutions. The university student, concentrating his attention upon a few subjects for a long period of time and by more intensive methods, comes to have a more extended view of the teaching possibilities of his specialty than can the normal-school student, who has not specialized at all. In science, for instance, the man who has become an expert in handling all kinds of apparatus and performing every variety of experiment is better prepared for laboratory work in the high school than one to whom a science is an incident. The same is true of language, history, or economics. A library with a quarter of a million books is a better preparing place than one with five thousand. The rich collections of photographs, lantern slides, and illustrative materials are also important indirect aids to high-school teaching.

Direct professional training.— Coming to the matter of direct professional training, we find important differences, not always wholly in favor of the university as a place for training secondary teachers. The general theory of education can be adequately taught in the normal school, except perhaps for time limitations and the lack of extended study of contributory departments of knowledge. The best preparation for the theory of education is extended study in two directions; namely, the mental sciences, like logic, psychology, ethics, and the history of philosophy; and the social sciences like history, economics, and political science. The direct professional work in the university coming mostly in the junior and senior years, to say nothing of graduate students, offers, of course, a much better chance of such preparation than does the normal school, where such subjects can be but lightly touched, even if they are taught at all. Furthermore, the university naturally lays the chief stress in educational theory upon the adolescent period of mind, and the studies and methods of the secondary school. In this it differs essentially from the normal school whose heart is in another place.

History of education particularly considered.— A similar difference in emphasis is found in the history of education. Here the normal school naturally devotes the brief time it can spare for the subject to the unfolding of elementary education. This is right and proper. But the university has more time, and has perhaps more need of a philosophical and institutional view of the subject as a whole, and it certainly lays more stress on those aspects most important for secondary education. For example, instead of reading three pages of a text upon the Revival of Learning, it spends weeks in following out in detail the rise and development and extension of Humanism — its rise in Italy, its spread to Germany, and its bifurcation between Protestants and Catholics; its culmination in the gymnasial system of Germany; its æsthetic and scholastic influence in France; its dominating position in English secondary and higher education; and finally its importation to this country, together with its former commanding influence, its gradual decline in recent times, and its probable future importance. Similarly the rise and development of science in modern secondary and higher education, though covering a shorter period, is an equally important phase of the history of education in the university. For such study the normal school would lack both incentive and time.

Comparison as to training in practice-teaching.— The normal school has one facility in the training of teachers that the university must for the most part do without, and that is actual practice-teaching in a model or training school. The only successful system of secondary-school practice is found, not in schools for high-school teacher-training, for such nowhere exist except here and there in name, but in actual cadet teaching in the secondary schools themselves, as in Germany and in cities in connection with a few American universities. It seems as if experience has shown that nether high-school students nor their parents will permit practice-work by candidates for teaching except in the way indicated.

It is an open question how much good it would do a high-school teacher to practice teaching in elementary classes. This would depend upon the subject, the age of the pupils, and the character of the criticisms offered. The nearer the grade of instruction approaches that of the high school, the nearer will be the approximation of matter and method to the needs of the candidates for high-school teaching.

The question of degrees.— Is it advisable for normal schools to

extend their courses and grant degrees in education? If this means the adoption of a dual end, namely preparation of both elementary and secondary teachers, its advisability is extremely questionable. If all the students of a normal school are trained for both and may choose either, they will, for two reasons, generally seek high-school positions, because these positions pay better salaries and they furnish what is deemed, by the community at least, a better social standing. If the normal school comes to fulfil the functions of a university, by that fact it ceases to have an adequate reason for existence as a normal school.

If, however, the extension of the normal-school course means a better scholarship from the standpoint of elementary education, then such extension is theoretically desirable. More knowledge of subject-matter and more extended professional training without deviation of aim would certainly conduce to better results in school and community. But essentially to change the aim and spirit of an institution is to acknowledge that it is not justifiable as it is, but that it should become something else. Since, however, elementary education will become increasingly rather than less important, it is evident that we shall always need institutions whose whole mind and heart are devoted to this end.

C. C. VAN LIEW
President State Normal School, Chico, Calif.

The advantages which the universities possess over normal schools in the preparation of secondary teachers lie unquestionably in the more liberal general culture and training which it is possible for the university to provide. In the training of secondary teachers it should not be forgotten that liberal culture will always play a chief rôle. On the other hand the difficulty with the university at present is that it cannot supply to its candidates for the work of the teacher experience in teaching; and that it is too commonly hostile to both theoretical and practical training in the arts of the teacher. The strength of the normal school lies in the fact that it is equipped to inculcate good ideas and to train good habits of teaching. The whole career of the normal schools of this country has been making for experienced candidates for the teacher's office. The weakness of the normal school, especially in the matter of training secondary teachers, lies in its inability to supply large general culture. So far as secondary teachers are concerned, at least, it ought not to try it.

Where ability to exercise a practical art is concerned, degrees are, or should be, valueless. They should be restricted merely to the position of evidences of culture. For this reason normal schools should not grant degrees.

It is too easy in this country to become a secondary teacher. The problem of training secondary teachers will not be solved until we have some regulation approaching four years of university culture work, followed by two years of professional training. This professional training might well be undertaken in the normal schools, for in general they are equipped to furnish both theoretical foundations and teaching experience.

EDMUND J. JAMES
President University of Illinois

I am decidedly of the opinion that, aside from those fundamental qualities which the secondary teacher needs in common with all other teachers, the greatest need of the secondary teacher in the United States today is scholarship. He is ignorant of the subject he is teaching. In my opinion, no man can properly present a subject to pupils of high-school age who has not pursued the subject to such an extent as to have an independent judgment on the subject that he is teaching; in other words, not unless he has mastered the subject so far as to himself be capable of original production within the field. There are very few teachers of that grade in the United States today. No one who knows my record in this matter would suspect me of underestimating for a moment the value of strict professional training in the narrow sense of the word. I have stood for professional pedagogical training for secondary teachers in our colleges and universities now for more than twenty years, and I am more in favor of it today than ever before; but I have never thought for an instant that that was in any sense a substitute for scholarly training in the subject-matter which one is teaching; and I think of the two that the lack of knowledge is a far more serious difficulty today than lack of method, serious as the latter is.

JASPER N. WILKINSON
President Kansas State Normal School, Emporia, Kansas

Universities have an advantage in preparing secondary teachers, because their students cover more completely the academic work of secondary schools. I do not think the normal schools can afford to

content themselves with anything less in the methods of the secondary schools than what the university training gives in that line. I believe the normal schools can do better work than will the university in preparing students to teach well all the subjects taken by the teacher, even though the teacher trained in the normal school may not take more of a subject as a student than is taught by him.

It seems to me wise for the normal schools to grant some such degree as Bachelor of Pedagogy when the work done is equivalent to that done in the college for Bachelor of Arts or of Science. Those degrees should, I think, indicate a preparation to teach in the secondary schools.

M. V. O'SHEA
Professor of Education, University of Wisconsin

The well-nigh infinite variation in conditions, standards, and purposes makes the problem of training teachers most complex and difficult.— The more I see of teachers and teaching, the less confidence I have in anyone's power to say with precision or in great detail what abilities and qualities are essential to success in the classroom. Much less am I satisfied with most of the current theories regarding the origin and natural history of teaching insight and skill, for they do not seem to me to take full account of all the complex factors entering into the problem. *A priori* and analogical reasoning abounds in this field rather more liberally than elsewhere, I think; and prejudice plays a more important rôle than observation and experimentation. The man who is opposed, by the law of inertia mainly, to professional training maintains that the teacher is born, not made; while the professor of pedagogy gives the impression that no one can instruct successfully who has not completed a course in the history, theory, and practice of teaching. Both parties to the controversy often seem cocksure of their position. A well-nigh infinitely complex situation is treated as if all the evidence in the case was at hand, and could be taken in at a single glance. It is small wonder, considering the way this subject has been handled, that the college professor of physics, say, and the normal-school president so often hold diametrically opposite opinions respecting it.

Advantages of the university in respect of scholarship.— But with all the disparity between individual views, I still think that most persons who are giving this matter serious attention, are coming to see

that there are certain requirements which are absolutely fundamental to success in the schoolroom. The limitations as to space prevent me from doing more than naming these requirements, with the merest outline of argument. First of all must be placed knowledge — *concrete, vital, well-organized, extensively related, thoroughly digested knowledge of the subject to be taught.* Everything hangs on this. One cannot lead others where he has not gone himself, and familiarized himself with the country roundabout. I have seen teachers, seemingly well-schooled in method, performing such an apparently simple task as teaching third-grade pupils phonics and spelling. Their work was more or less of a failure from start to finish, mainly because they did not *know* the English language; they did not *know* the function of elementary sounds in verbal combinations; they could not readily show how a sound functioned in this word by comparing it with other words familiar to pupils and in which it functioned in the same way. If broad knowledge is so indispensable in relatively simple work like this, how much more necessary is it in the extremely complex work of the high school? A large part (not all, however,) of the poor teaching I have seen in the secondary school has been due to deficient understanding, in its full meaning and in all its bearings, of the subject under discussion.

Now, the advantage of university training, for high-school teachers at any rate, hinges upon this first requirement. The normal school as at present organized, with but very few exceptions, is not equipped to give pupils effective professional training for every grade of school work, and adequately supply their academic needs at the same time. When it attempts this herculean task its work becomes superficial and fruitless, and its pupils reach the dead line early. I realize, of course, that the broader opportunities of the university may not be utilized fully. The training may be verbal, scholastic, mechanical; but this is a matter of individual institutions and individual professors. And the criticism applies with equal force to the academic departments of many if not most of the normal schools. On the whole, physics or Latin or English is not taught in any more vital way in the latter than in the former institution. One who inspects high schools sees normal-trained teachers who are just as artificial and slavish and ineffective with their rhetoric or physiology or geometry as the most formal university-trained teacher could possibly be. Most of the non-professional subjects in the normal school

are handled by persons who are themselves strangers to the ideals and theories of the institution, and they often have little sympathy with professional training. Their visits to the professional department are infrequent, hastily made, and it happens that their work goes on utterly indifferent to the principles propounded in the psychology, and method classes, and in the practice-school.

I may perhaps be allowed to go to the extent of saying that, speaking generally, the university secures the ablest men in the teaching profession, men with the clearest judgment as well as broadest learning, and my belief is that on the whole they make a sharp distinction between real and verbal knowledge of a subject. When one listens to these men discuss the teaching in the high school of their quondam pupils he realizes that, as a rule, the greater the man's learning in his field the more keenly he appreciates genuine and effective as contrasted with superficial and factitious work. The point I am making is that the academic training of high-school teachers may best be left to the university, which is alone qualified to undertake this work.

How the university can give instruction in knowledge of human nature at the high-school stage.— The second requirement for effective teaching is a subtle sense of the impulses and tendencies of human nature, and especially of developing human nature during the adolescent period. The teacher ought to understand, whether understanding comes from instinct or from learning, how the pupil will react upon school-room situations, in respect alike of matters of instruction and of government. Doubtless much of this understanding must be gained outside of the classroom, from original endowment, and by long and intimate contact in give-and-take relations with all sorts and conditions of boys and girls. An adult candidate for teaching, who has lived the life of a recluse, can probably never acquire a keen sense of human nature. But one who has had first-hand experience can be led to analyze it and see the principles exhibited in it. He can be led to observe directly how boys and girls react to typical situations, and thus he can supplement the review of his own experience. In this way he can be made to some extent aware of how the mind of the learner will most economically assimilate knowledge, so that he can consciously (at the outset) plan his own work in harmony with psychological law. He can be made to realize more or less clearly, too, how the social impulses of individuals can be organized and directed so as to most easily secure unity and sociality in the school group.

The university is well equipped to give the pupil a considerable part at any rate of this instruction. It offers in its own processes conditions much, though not precisely, like those found in the public high school. It comes as close to actual conditions probably as the average practice-school in the normal. University students have come so recently out of the high school, too, that their memories are fresh in reference to many of the most vital problems to be studied, and so, even without direct observation, the work may be made quite concrete and vital.

Limitations as to training through observation.— And yet, most universities are handicapped in not having under their jurisdiction schools of observation, such as are possessed by Columbia and Chicago. A considerable part of the work in educational psychology must be more or less in the air for want of opportunity to see the objects and events discussed. The experience of pupils cannot afford data to illustrate all the principles developed in the courses in Education, for this experience is usually too narrow; and, what is more serious, it is often of the wrong sort. Pupils brought up under military discipline will not understand all you say about self-government unless they can see it in operation. He who has been nourished on the classics during his high-school career will adjust himself with great difficulty to the newer views of relative values, unless you can set before him a lot of concrete evidence relating to the effect upon mind and conduct of a non-classical diet. And one might go on at much length in pointing out the benefits which could be derived from schools of observation in the university.

The question of practice-teaching.— The universities are handicapped again in not having schools of practice, though the limitations from this source are not so great and serious as they are sometimes represented. We do not seem to have made much progress in all our discussion the past ten years on the place and value of practice-work in training schools; but so far as I can tell those who favor *some* practice have the advantage in the controversy. But on the other hand, there is such a thing as having too much — so much that the novice habituates himself in the imitation of the peculiarities of his critic or model teacher, and ceases striving to work out effective methods in the light of principles of mental development. In my opinion, if you can give a high-school teacher insight into human nature as it is displayed under schoolroom conditions you have done about all you can for him. Of course, it is not easy to give such

insight unless the novice is put in situations where he must react in some way; where he must *use* his insight. It is a difficult, if not impossible, task to accumulate real, effective insight against some remote time of need. This is why we should have some practice, not so much for the purpose of acquiring skill as for enabling the student to gain genuine insight. The proper time to get facility in schoolroom technique is when the teacher begins his serious work. The superintendent and not the critic teacher should be responsible for this phase of the breaking-in of the novice. The professional work should aim mainly to develop *understanding,* giving the candidate only a start in the perfecting of technique, and leaving the most to be determined by the peculiar conditions under which he will work.

When I say *understanding* I refer, in the first place, to an intimate, fruitful acquaintance with the types of human nature presented in the average high school, and under schoolroom conditions; secondly, I refer to a knowledge of the influence in the life of a boy or girl of each and all of the branches of instruction; and lastly, I refer to an understanding of the psychology of the subject which the candidate is to teach — not of all subjects, but of his special subject. Note that I have said nothing of devices or of methods, but of the *psychology* of the subject. Methods not founded upon such psychology are bound to be employed in a formal, mechanical, ineffective way. Now, my point is that the university, with its present equipment, can go a good way toward giving this understanding, though it could do the work more completely and genuinely if it could have at hand a school under its own direction. University students, trained constantly as listeners, but not required *to do things,* are too self-contained when they start in teaching; they are not outward, not dynamic enough. They are more "ego-centric" than normal-school students, and to this extent are the less effective. Departments of education in the universities are in need of a more dynamistic atmosphere, if I may so express myself; but this comes only with practice-schools.

Universities more likely to send out secondary teachers of commanding personality.— I have already exceeded the space allotted me, but I cannot close without saying that, in my opinion, the thing that gives all knowledge and all understanding force and fruitfulness in the high school, or elsewhere for that matter, is personality, a term easy to use but hard to satisfactorily define. But we know what is

meant. Now, speaking generally, the university gets the strongest personalities in the commonwealths in which they are located. The most virile and competent men and women are always struggling topward in education as in other matters. It may be, and unfortunately it seems to be generally true, that the most capable men and women in the university do not choose teaching as their profession; but even so, those who do make such a choice are stronger on the whole, in all that this term means, than those who have stopped at some lower point. And this means, as pertaining to our special topic, that if we could we should place over boys and girls in the high school the type of man or woman who has climbed to the top of the educational ladder.

L. H. JONES
President Michigan State Normal College

Personal qualities, skill, and scholarship required in secondary teachers.— The teacher in the secondary school should in general be of a slightly more reflective cast of mind than the primary teacher and more disposed to generalize upon facts and emphasize conclusions than to end with the memorizing of separate items of knowledge.

There is required large sympathy with hopes, aspirations, and ideals, while the primary teacher is properly more content with a mastery of present tasks through present and temporary interests. The high-school teacher must, by nature or habit of mind, be able to open up for the young a ready comprehension of what constitutes success in life in its several provinces, or to show how scholarship in students is a general but very real preparation for successful living. To this end his scholarship must be more extensive as well as intensive in his specialty than is required for a smaller degree of success in primary- and grammar-school teaching. The intensive study of specialties should proceed to a point assuring a sufficient supply of subject-matter well digested and systematized to supply dynamic energy in the teaching act, and should stop short of the point at which interests are fixed and views narrowed to single provinces of thought or culture.

Special professional training.— As special professional training the teacher in the secondary school should have all the instruction in psychology which is necessary for the primary teacher, and besides, a

fuller study of the special phase of development peculiar to the age of adolescence. There should be also a much fuller study of the logical relations, topics, subtopics, and concepts of the subjects taught, and a more rigid comparison of this logical order with the psychological order in which these topics, subtopics, and concepts of a subject are most easily mastered by the adolescent mind; and especially a fuller study of such arrangement of these after they are learned by the pupils, as will make them best teach the generalizations which they are to suggest to the young.

There should be an especial study of ways or methods of teaching subjects so that they may be the means of creating beliefs, suggesting aspirations, developing interests, and establishing habits — any of which are of much greater importance than the mere learning of this knowledge as nonvitalized, disconnected, unrelated mental possession.

Universities in their relation to preparation of secondary teachers. — Neither universities nor normal schools have succeeded as yet in preparing properly the teacher for the secondary schools. There are certain well-marked defects in the university graduate, considered as a teacher in the secondary school.

1. As to subject-matter and methods he tries to have his secondary pupils do at once what his professors have had him do in his university course, ignoring the immaturity of his pupils. This tendency has grown worse and worse in recent years, as the tendency toward extreme specialization has grown more pronounced in the universities.

2. He tries to confine his students to minute study of small provinces of a subject, rather than to lead them toward larger views or more general conceptions. Hence he fails to make his instruction helpful to his pupils in shaping their beliefs, in stimulating their aspirations, or forming their ideals. I do not mean that he is too thorough in his teaching, but that he lays stress on small things to the exclusion of larger wholes which are more easily understood by the high-school pupil, and are more significant and helpful to him. He is exhaustive rather than thorough in his instruction. This evil is more disastrous to pupils who do not advance beyond the high school than it is for those who are preparing for college or university.

3. He comes to the high school bearing the university feeling that it is more important to teach subjects than pupils. This prevents his feeling responsibility for the advancement or welfare of the individual pupil under his care. Even the pedagogical departments of

our universities have not yet succeeded in fully correcting this wrong attitude of mind in their graduates.

4. His extreme specialization has left him without settled beliefs, general conceptions, or enthusiasm for good citizenship. He is therefore unfit to teach high-school pupils, who are in the formative period of character development, and many of whom will receive no further schooling. He corrects this defect only at the expense of those whom he teaches within the first two or three years of service.

Normal schools and the preparation of secondary teachers.— Normal schools have erred quite as greatly in their preparation of teachers in secondary schools, wherever they have tried to train such teachers, but in a different direction.

1. Normal schools have generally left their graduates with deficient scholarship. This results from admitting pupils with too little preparation, or allowing them to be graduated from courses that are not sufficiently extended and scholarly in character. Some of these institutions are now correcting these defective conditions.

2. They have frequently concerned themselves with the mechanics of teaching (oftentimes mere devices) under the title of methods, without giving attention to the larger significance of the school as an instrument of advancing civilization. There has been a marked improvement in the best institutions for the training of teachers, in this respect, within ten or fifteen years.

In one respect the normal graduate is a distinctively better teacher for ninth- and tenth-grade pupils than is the university graduate; namely, in his readiness to see and appreciate that the true end of teaching in a high school is such assimilation of knowledge by the pupil as to develop character, create efficiency, and direct conduct.

I am far from believing that normal schools should train all the teachers of the secondary schools; but I do believe that high-school instruction will be greatly improved in the near future by a larger proportion of teachers who shall have been trained in normal schools that are able through equipment and faculty to give them work fitted for their needs.

CHARLES B. GILBERT
New York

Universities are able to give students higher scholarship, a broader outlook, a more thorough and intimate acquaintance with subject-matter, and devotion to learning for its own sake. Their business is

to train specialists. Other things being equal, a student who thoroughly knows his subject and is devoted to it is better qualified to teach it than the one who has a less thorough knowledge.

University graduates, however, are apt to be deficient in a sense of relation, their own subject appearing to them of the greatest importance; in a knowledge of child-nature; in the power to adapt teaching to the immature, growing mind; and in the ability to distinguish immaturity from dulness. They are apt to present their subjects in the order of their logical development regardless of the psychological order or the order in which the students can receive and learn them. They are too frequently afflicted with a constriction of the imagination and with an unwholesome contempt for the study of child-nature and the principles of education.

Normal schools usually graduate their students quite deficient in the knowledge of any particular subjects; with a general view of the world of learning quite limited in extent; with a sense, sometimes exaggerated, of the importance of method; but with a sincere belief in the value of the study of child-nature and in the importance of consulting the results of such study to determine how subjects should be presented.

The normal-school graduate is more likely to pursue the psychological order than the logical in teaching, and so far as his learning is sufficient for his needs, is likely to teach his subjects better than a university graduate. But too frequently his learning is not sufficient. He is, indeed, in danger of despising real scholarship and of assuming that teaching is a distinct art and can get along without it.

Naturally, a combination of the good points of both university and normal-school training, with the omission of their bad ones, would be desirable. Under present circumstances, such a combination can be brought about better by the university than by the normal school, inasmuch as it has a better equipment and is able to require a higher standard of admission and to furnish the essential scholarship.

The ideal place for the training of secondary teachers is a teachers' college of some sort attached to a university as a co-ordinate part, utilizing all of the scholarly advantages of the university and adding the special training needed to make teachers. Such schools, however, need to have one feature greatly strengthened. None, so far as I know, with the possible exception of that at Brown University, have adequate facilities for practice by intending teachers; and

such practice as is furnished is usually under conditions such as never will be found to prevail in the schools in which the students will teach. An ideal arrangement would be a close relation between the teachers' college and the local high-school system.

It does not seem desirable at present for the ordinary normal school to add to its course and give degrees in education. The normal schools are not now able to even approximately supply teachers for the elementary schools for which they are especially intended, and to divert any portion of the money belonging to them to a lengthened course for the sake of training teachers for high schools would result in thinning the work all along the line. There are practically none of them equipped for doing such scholarly work as is required for the training of secondary teachers and unless the states are willing to enormously increase the appropriations, they cannot do this high grade of work, which necessarily requires the expenditure of large funds. It is much more important that for the present at least all efforts for the extension of normal-school facilities be directed to increasing their number and making them more efficient for the supply of the needs of the elementary school, and those who are especially interested in the development of the training of secondary teachers should use all their efforts for the strengthening of the departments of the universities according to lines indicated above.

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MINUTES OF MEETINGS HELD AT ST. LOUIS, MO., JUNE 27 and 28, 1904

(ROOM I, HALL OF CONGRESSES, LOUISIANA PURCHASE EXPOSITION)

In a conference of the Executive Committee just before this meeting it was decided that the next topic for study should be "The Education and Training of Secondary Teachers." This was in accordance with the dominant preference expressed by members of the Society. Time did not allow a consideration of other items of business.

The meeting was called to order by the President, Wilbur S. Jackman, who briefly introduced the subject of nature-study, and asked for a frank and critical discussion of his views on the subject as presented in the *Third Yearbook,* Part II.

Although the *Yearbook* had been in the hands of members but two weeks, the discussion showed a more careful study of it than usual.

Professor George M. Forbes, of Rochester University, C. P. Cary, State Superintendent of Wisconsin, Herman T. Lukens, and Theodore B. Noss, of Pennsylvania, L. E. Wolfe, of Texas, Grant Karr, of New York, Jesse D. Burks, of New Jersey, and a few others took part in the discussion. (For members of the National Society and other readers of the *Yearbook,* two of the discussions are printed. It is now the policy to print some of the discussions that will be of interest and value to members and others. Discussions ought to clear up more than they usually do, and the man who will promote the art of scientific criticism in discussion will be an educational benefactor.)

By motion the Executive Committee was instructed to fix the meeting for Tuesday, June 28, at a more suitable hour and place. This question was considered by the Committee but no hour and place more generally convenient could be found. Notice was so given.

Ordered by motion that phases of the paper not touched upon thus far, especially (1) the moral value of nature-study, and (2) the course of study outlined by Dr. Jackman be special orders for the Tuesday meeting.

Rain and mud and the many counter attractions left the attendance smaller than was expected. About forty were present.

MINUTES FOR MEETING TUESDAY, JUNE 28

A round-table discussion was held for two hours on Tuesday afternoon, following the lines ordered the day before.

The following persons were elected to active membership:

Frederic E. Farrington, Assistant Professor of Education, University of California, Berkeley, Calif.

Maximilian P. E. Groszmann, The Groszmann School for Nervous and Atypical Children, Plainfield, N. J.

David S. Snedden, Assistant Professor of Education, Leland Stanford Junior University, Stanford University, Calif.

DISCUSSION OF DR. JACKMAN'S PAPER ON NATURE STUDY

GEORGE M. FORBES
University of Rochester

MR. CHAIRMAN:

I have read the monograph of Professor Jackman with keen interest and wish to express my admiration and appreciation of this comprehensive attempt to define the scope, the correlations, and the purpose of nature-study in elementary education. Its value is by no means confined to the positive contribution which it makes to the educational evaluation of the study. It is scarcely less valuable as a stimulus to thought and experiment, and as a point of departure for organizing and defining both theory and practice regarding this subject, now so vague and undefined in the minds of most teachers.

In suggesting some questions which have occurred to me regarding the views set forth by Professor Jackman, I shall leave the minor points with mere mention and take the few minutes allowed me in discussing the main contention, that upon which he stakes the whole value of the study; viz., that the supreme end of the study is to develop moral character.

What constitutes a mental image.— Among the minor points I would mention Professor Jackman's use of the word "image," and his exposition of what is involved in the formation of an image (page 18 seq.). The illustration used by Professor Jackman would seem to indicate that all generalization through the discovery of resemblance, and all organization of facts through the discovery of causal relations are included in the process of forming an image. Here the conceptual and perceptual process and products seem to be completely confused and the most abstract product of generalization is designated as an "image."

Individual vs. type.— Another point is Professor Jackman's advocacy of the study of individuals and individual characteristics rather than of type (Chap. III). The position taken in this chapter seems somewhat inconsistent with that on page 11, where the author discusses "the unity of nature-study and natural science." The interest which children feel in the study of individual characteristics is rather a sympathetic and æsthetic interest than a scientific one. It seems the very essence of scientific interest that it seeks the type and the law. It is an exaggerated individualism, a projection of human life into nature, that gives all the charm to such books as Seton Thompson's; and such books are obviously very remote from the scientific in their spirit.

In Chap. III Professor Jackman recognizes that a child's interest must

be in the individual, and thus indicates the natural dividing line between the earlier and the later and more strictly scientific study of nature. It is a question whether a genuinely scientific interest, i. e., an interest in the abstract process of generalization which leads to type and law comes earlier in the average child than the period of adolescence, and so whether in the presentation of form, color, motion and life in nature to young children any attempt should be made to appeal to other than sympathetic and æsthetic interests. Sympathy with nature and enjoyment of it seem the natural ends, the ends prescribed by the nature of the child.

To comprehend and to enjoy nature as the poet comprehends it and enjoys it; to find spirit in nature and beauty, and thus to make nature a means of companionship and pure enjoyment — these are ends of nature-study which should never be overlooked. The great question is whether the analytic and abstract view of science, which dissects nature and dissolves its individuality into the shadows of type and law, is not positively hostile to the other point of view.

Whether nature as means of culture and nature as means of scientific training are not essentially different studies. I do not assume to answer this question. I only raise it.

Number work and nature-study.— Still another point is the author's view of the relation of number work to nature-study (Chap. V). The author's argument against drill work in number seems to rest upon the assumption that, if you dissociate the numerical symbol from particular concrete objects, you divest it of all meaning for the child. This cannot be admitted. One might as well say that when you dissociate the word-symbol from some particular object, you divest it of all meaning. The child cannot read, in any proper sense of the term, until it is able to take the meaning direct from the symbol; i. e., until the meaning of the symbol is an idea, not a particular thing; so the child cannot calculate in any adequate way until it takes the meaning of the number direct from the symbol without immediate reference to a particular object or group; and it is not too much to say that it is, and should be, the great aim of the teacher to secure this power of abstraction and thus emancipate the mind of the child from sense-perceptional bondage. The modern advance in the teaching of number is marked, not by omitting the training necessary to deal with number in the abstract, but by insisting upon an adequate concrete basis for such abstraction. It insists that number shall begin with the concrete particular in order to give precise and definite meaning to the symbols, but not that it shall end with it. The quantitative treatment of nature may contribute greatly to the mastery of the science of number, but its contribution would be of doubtful value on the whole if it discredited the drill which develops power to grasp the universal in number apart from this or that concrete application.

Nature-study and morality.— The discussion which Professor Jackman regards as fundamental, because it determines the value of all the rest, is that regarding the relation of nature-study to morals (Chap. VI). Any adequate treatment of the author's view of this relation would require far more time than can be allotted to this discussion. I can only point out in the most summary way some grounds of dissent from the position taken. This position seems to be based upon two conceptions: first, that science has somehow established a new foundation for morality; and second, that the essence of morality is in that "concession," or "adaptation," which is exhibited throughout nature.

In regard to the first it may well be questioned how a study which concerns itself wholly with impersonal law, which deals exclusively with the category of a rigid causal sequence, can establish any foundation for a science the very corner-stone of which is the presupposition of freedom, and choice. The serious question is whether there is any morality in nature as such, whether all the morality which we may think we find there is not the imaginative projection of personal life into the life of nature, the product of the sympathetic and poetic view of nature, and so rightly rejected by the scientist as from his point of view an unwarranted importation of teleology and sympathy, where he finds only rigid causality. I doubt if there can ever be any clear thinking regarding morality so long as one fails to see that the abstract category of cause, as science conceives it, is simply the negation, not the foundation, of morality. To suppose that morality can be illumined or explained by being referred to this category is to suppose that you can explain the higher by the lower, the concrete by the abstract.

Regarding the second conception, that the essence of morality consists in adaptation, it may be questioned whether the vagueness and ambiguity of the term does not make it worthless for the purpose of defining morality. The author's illustrations would seem to indicate this fundamental ambiguity. If the organic reactions to environment in grass and trees are identical with the act of proffering a cup of cold water, then it is doubtful whether a valid distinction can be made anywhere. We cannot stop at the trees and the grass but must include the formation of the crystal and the chemical reaction in our idea of adaptation and concession; on the other hand it is difficult to see why the utterance of a falsehood, and the act of theft are not as much adaptations to environment as the proffering of the cup of cold water. It would be interesting to inquire how the author interprets the struggle for existence in organic nature. Does not the fittest, i. e., the strongest, survive; and must not the weakest go to the wall; and is not this process also one of "adaptation" and "concession" to the pressure of surroundings?

For these reasons we cannot share the author's hopes of a renovated morality through the scientific study of nature. Morality grows out of the

relation of man to man, its great exemplifications must always be in human life, and from this field too must the youth draw his great inspiration to duty. All the morality in nature is read into it by sympathetic and imaginative interpretation, but this is the very interpretation which science cannot accept. Science does, it is true, make indirectly great contributions to morality, but it is not by finding morality in nature. It is rather in developing the sense of reality and the disinterested love of truth, and this may be transferred to human life and result in a love of truthfulness and a hatred of all shams.

The scientific study of nature must, it would seem, be content with this indirect contribution to morals, and rest its right to recognition, not upon a claim to be the foundation and source of all true morality, but upon the other well-known advantages of scientific study.

COMMENTS UPON PROFESSOR FORBES' REMARKS BY THE AUTHOR OF THE YEARBOOK

There is no discipline equal to that which comes from having one's ideas overhauled in a frank and open discussion. What is taken as a difference of ideas, however, often turns out to be but a difference in the use of terms to express practically the same ideas; or as in this case, perhaps, the writer of the *Yearbook* did not make himself sufficiently clear to be easily understood. These two suggestions will account, I am sure, for most of the exceptions raised by Professor Forbes, but not for all.

It would prolong the discussion beyond reasonable limits to fully consider the point raised about number work. In a word, I insist that much work that passes for number work is language lessons pure and simple wherein words and symbols are used that mean nothing; that a child has the same right to have a mental picture back of a number used that he has to have a mental picture back of any word used. This does not imply the perpetual presence of the object in number work any more than it implies that a mountain must be present always when the pupil reads about it. "Number in the abstract" is a phrase responsible for much confusion. It would be interesting to know what Professor Forbes means by it.

The far more important point relates to the bearing of nature-study upon morals. The point of view adopted by Professor Forbes is radically different from that taken in the paper. The corner-stone of his ethical doctrine seems to be "the presupposition of freedom and choice." This, the paper neither assumes nor allows. There is no morality among the trees — no trace discernible. There is a little trace of the beginnings of it among the beasts — in the care of their young, for example. Morality among human beings is but that extension of these primitive and parental relations so as to cover a wider field of activities which the higher organized brain of man has enabled him to

make. In the struggle for existence there is nothing incompatible with the highest ethical code. With man, the struggle is for the *highest existence;* with the brutes for a lower — at least according to human standards. The struggle for existence on the lower or brute plane involves the destruction of the weak and helpless; on the higher or human level it involves their nurture and care; otherwise our existence is not worth having. This is in accord with the law of love which is as absolute and irrevocable as the law of gravitation. As the unfolding of the leaf is a concession to the sunshine, so the unfoldings of mercy are concessions of the human being toward those that need help. The trees and beasts adapt themselves to each other on the basis of physical strength; on the human plane adaptations take place on higher grounds. Instead of killing the weak or crowding them to the wall, we succor them — that is the highest adaptation.

The utterance of a falsehood and theft, as Professor Forbes suggests, are indeed adaptations to environment. The race — some of it — has found out that the proffering of a cup of cold water is also an adaptation and that it is of a much higher type, and hence moralists are uniform in their advocacy of it. In the long run — ages long — it is the faith of the optimist that this type of adaptation will finally prevail and that through it the race will be lifted to heights which are, as yet, undreamed of.

HERMAN T. LUKENS, STATE NORMAL SCHOOL, CALIFORNIA, PA.

I am in hearty accord with what I understand to be Professor Jackman's standpoint in the teaching of arithmetic. Nature-study needs the assistance of number work to make its images exact and definite. Arithmetic needs to do such work in order to gain motive and sanity in its study. The co-operation of the two subjects is mutually helpful and neither can afford to do without the other. The arithmetic is still one of the worst-taught subjects in the curriculum, because of the disconnected character of the problems. What should be capable of implanting and nourishing deeply moral feelings of honesty, integrity, justice, order, and faith in God, serves often to teach cunning, guessing, cheating, profit and loss, and speculation, in which the pupil, however, is often blissfully unconscious of his errors when he dots his decimal point down in the wrong place.

The question of teaching arithmetic *incidentally* and omitting drills on arithmetical processes has absolutely nothing to do with the paper before us. No such proposal is made in the paper nor would it be practicable if it were made.

The geography is in the same relation to the arithmetic as is the nature-study — needing the exact precision of measurement for its images of area, population, distance, industries, products, and commerce; and, on the other hand, furnishing the real problems that set the pupil in the right attitude of interest toward his number conceptions.

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THE FOURTH YEARBOOK

OF THE

NATIONAL SOCIETY FOR THE SCIENTIFIC STUDY OF EDUCATION

PART II

THE PLACE OF VOCATIONAL SUBJECTS IN THE HIGH-SCHOOL CURRICULUM

BY

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GILBERT B. MORRISON
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EDITED BY

MANFRED J. HOLMES
SECRETARY OF THE SOCIETY

MEETINGS FOR THE DISCUSSION OF THIS YEARBOOK WILL BE HELD AT 4:00 P. M. ON MONDAY AND WEDNESDAY, JULY 3 AND 5, 1905
HEADQUARTERS, THE COLEMAN HOUSE, ASBURY PARK, N. J.

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ANNOUNCEMENT TO ACTIVE MEMBERS

There has been a general opinion among the members of the Society that our meetings would be more effective without the presence of a miscellaneous audience. This opinion has grown into a positive determination to take measures that will avoid such a crowd. There are several things that will contribute to bringing about this highly desirable end. (1) The selection of a room for meeting. The room should be as convenient as possible for members, but not such as will make it easy for anybody to drop in out of mere curiosity. (2) Admission to the meetings should be by personal identification or by certificate of membership. (3) It ought to be better understood and accepted that those eligible to enter the meetings are (a) members—both active and associate, and (b) guests—both those invited by the officers as guests of the Society and those invited by active members as personal guests.

The general and positive demand that a more definite program be planned for each meeting will be complied with; but nothing will be done to take away entire freedom and ample opportunity for any member to take part in discussion; and no policy will be adopted that will relieve members from responsibility of preparing for the meeting by at least reading the *Yearbook*.

The opinion is none the less general and positive that there be laid before the Society a definite topic or series of topics for consideration, and that the chairman enforce strict adherence to a topic until the next one is due.

The time has not yet come when we can decide on time limits for discussion in advance of a meeting. But experience has proved that both prudence and justice occasionally require a limit to the number of times a member may speak, and to the length of his remarks.

Non-members should not be granted the floor unless invited. At one meeting a man who neither understood nor sympathized with the work of the Society delivered a five-minute criticism telling what the Society ought and ought not to do. Any ruling in accordance with this suggestion should receive hearty support from all members.

Unless otherwise announced in the final Official Program-Bulletin of the National Educational Association, the meetings at Asbury Park will be held in the First Presbyterian Church.

It is hoped that a large number of active members will be present at the Asbury Park meetings prepared to question or discuss some definite aspect of the great educational problem which the present *Yearbook* brings before the Society.

At the Wednesday meeting some time will be given to a consideration of the welfare, policy, and future work of the Society. The suggestions under the Secretary's report will then be acted upon.

It is urged that wherever possible members form local circles for the reading and discussion of the *Yearbook*.

The Coleman House will be the Society's headquarters.

M. J. HOLMES, *Secretary.*

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INTRODUCTION

Whatever may be said about school as life itself, it is nevertheless a fundamental and persistent fact that school is also and primarily a preparation for life. History is ever proving the truth of this statement, offering clear evidence at three stages in the evolution of a school: first, at its origin; second, during the period of efficient function; third, in its decline. Every school is called into existence to help children and others to better discharge life's relations and realize life's ideals. As long as it meets the demands upon it, it continues to exist. Its continued survival depends upon its ability to readjust itself to render new service demanded by change in ideals and needs. When it no longer has within itself the principle of accommodation it declines and takes its place among the historic fossils or buried relics of a past age.

Whenever a school or a course of study ceases its *vital* functioning there is evidence that it is not in touch with the great source of life that created it. It must regain the contact of vital service or fall behind the procession of progress, nursing its gone-time ideals with a devotion all unconscious of the pathetic though may be picturesque figure it cuts.

The Executive Committee of the National Society for the Scientific Study of Education decided to bring before the Society one of the most significant aspects or trends of American education to-day. The view is not complete; but even as it is perhaps more is presented than can be covered in discussion at the Asbury Park meetings. Perhaps logical completeness in the general plan may seem to be lacking because there is no chapter on the general function of the public high school, and none on the educational value of the vocational subjects in the high-school course of study to show their necessity in a high

school that is rendering its complete public service. But Professor Dexter has assured the probable presence of President E. J. James, University of Illinois, to discuss these omitted features of the study at Asbury Park.

Under the general topic "The Place of Vocational Subjects in the High School Curriculum," the three great groups of what may be called vocational studies have been treated by persons well qualified to represent their respective aspects of the problem. It should be distinctly understood, however, that opinions of individual writers do not necessarily represent the opinion or meet the sanction of the Society.

In addition to the main feature of this *Yearbook,* a consideration of the problem of training secondary teachers has been carried on in two strong discussions.

A special feature of this book is the Secretary's report on the conditions, needs, and prospects of the Society. I must hope that this will be examined by all members who are sincerely interested in the welfare of the Society.

M. J. H.

THE FOURTH YEARBOOK

THE PLACE OF COMMERCIAL WORK IN THE HIGH-SCHOOL COURSE OF STUDY

J. STANLEY BROWN
Township High School, Joliet, Ill.

SYNOPSIS

The chief factor in determining the high-school course—public opinion; the teacher's function and duty in this connection; the action of public opinion illustrated.

How private schools exercise a corrective and progressive influence upon the courses in public schools.

The evolution of the idea of commercial courses; the old idea—cheap, short cuts; the new idea—a liberal education, time to develop.

The conception of "culture" determined by the ideals of the age; influence of the civic-commercial ideal.

The demand for commercial education of a high order coming to be reflected in the courses of most kinds of schools.

Education ought to be a unit; hence the unwisdom of creating separate schools for vocational courses. Almost every course reaches out into other courses and finds its complement in them; so with commercial courses.

Great stimulus would be given this work if colleges should recognize that it stands for just as much training as any other kind of work.

The probable growth of commercial work in extent and relative importance.

The importance of taking the commercial work in the order laid down in the course of study.

Who should be advised to pursue a commercial course in the high school?

What a four-year commercial course should contain.

The commercial course in the Township High School of Joliet, Ill.

The most important factor in determining what work shall be offered in a course of study for any secondary school is public demand, or public opinion. Teachers themselves perform a very important and highly valuable function by creating and shaping public opinion, and he who, for fear of doing something which will not meet immediate public approval, refrains from doing what he can to shape public opinion along progres-

sive educational lines, will soon find himself relegated to the "side lines" and no longer a real "part of the game." Public opinion precedes public demand, and sometimes the procedure is so rapid that the one almost antedates the other.

An examination of the records shows that in the great city of Chicago there was no demand for a public high school with any kind of course of study until about fifty years ago; while to-day public opinion will not suffer the number to decrease, but the number of schools, their equipment, their conveniences, etc., must ever go on to something greater and better.

If we will pause a moment to reckon with our school history, or rather, with the subject-matter of our course of study, and indeed the courses themselves, we find that among the earliest course of study public opinion directed that Greek, Latin, and mathematics should form almost the entire curriculum; and so rigid was this belief that one course only was open to all alike, regardless of previous condition or future career. The college took practically the same view and continued this same kind of work.

If anyone had suggested the propriety of offering a course in some kind of laboratory science such as may be found in any good high school to-day, he would have been branded as a rank species of heretic, unfit to breathe the scholastic atmosphere of that period.

By virtue of the fact that private secondary schools are not supported by public taxation, but seek to promote their welfare by some other means, there has been and is even now great effort put forth to call public attention to any new features in work or equipment not found in public high schools. It is for this reason more than any other that all subjects mentioned in school curricula to-day, especially music, drawing, manual training, commercial work, domestic science, and others outside of the three which almost entirely made up the earliest course of study have found their way into the course of study through the private institutions.

This fact means that cheap, short cuts, and that, too, for

revenue only, characterized the initial efforts in commercial education. Because of the narrowness of the earlier attempts at business education, a few courses only were offered, and these for a brief period; but this small beginning, ridiculed at first, as something foreign to any kind of culture, has been given such recognition now that a large per cent of the high schools of this country realize that this phase of education has come to stay, and have therefore established some kind of course of study.

In many places the experimental stage has not been passed, and the teacher in charge of the commercial work is simply tolerated by other departments and is looked upon as a questionable factor; but the evolution of this phase of education is going steadily on, and is proceeding much more rapidly than some of the other phases before mentioned. The immediate popularity attending the introduction of such work is never desirable, because the reaction is sure to come. The recalcitrant is an ever present trouble. The conservative pace in development is much to be preferred. The position once gained ought not to be given up.

The commercial course in any school ought to require the same effort to complete it as any other course requires. This course of study and the students pursuing it ought to have the same scholastic respect as any other company of students pursuing any other course. This course must stand for just as much training, just as much glory in its completion as any other course. The teacher in charge of this department, and the head of the school must, in large measure, be held responsible for the scholastic status of this work. After it has secured a fair recognition at the hands of all students and teachers, it will lose or gain prestige in the same way as any other department.

The timidity which characterized the introduction of this work in many places was not likely to create an air of respectability. In many high schools, in which all regular courses were four years in length, their new business course was two

years, and was modeled strictly after that in the private business school. This was a grievous mistake, because the course was at once branded as cheap, easy and fit only for such students as were mentally unable to succeed with the Latin or scientific course. It was at this stage that students looked upon the commercial course as they once did the English course; and if asked how many studies they were pursuing, they replied, "Three studies and English," meaning that English was of such little significance that, in point of difficulty it was not regarded as other studies. It was so with commercial work until the course was properly graded and arranged somewhat after the manner of other courses in school. Now wherever a good commercial course is found, its completion means that as much has been accomplished in educational value as in the completion of any other course.

Commercialism was never more intense, nor the life of a business man more strenuous than in this day and age. The demands of the age must always have consideration in the making of school curricula, and so we believe there is more reason now for magnifying and developing commercial work in the high school than there has ever been heretofore.

The old idea of culture and that alone was good, and it is good yet, but it was not, and is not all by any means. A judicious fusion of these two notions, the old and the new, and a rational application of the resultant will produce a far more satisfactory product than has yet been found in paying quantities in this country. A man may be cultured and yet keep a set of books. A graduate from the old classical course in college will make all the better teacher of stenography, typewriting, business arithmetic, etc., for having had his classical training; and he ought not to find the atmosphere any less inviting and invigorating in the second condition than it was in the first condition. George B. Cortelyou, William Loeb, and Helen Gould certainly show that culture and business training are not incompatible. We are living in an age which honors independence in the individual, and neither wealth, position, culture nor

any other qualification can take its place. The world wants workers, men and women who can take the initiative in bringing things to pass, and it is willing to pay for such service; and so the need of a broader, more careful, more helpful business training at public expense is manifest.

This public need is making itself known more and more broadly, because we find that within a few years, normal schools, colleges possessing the power to confer degrees, private academies, seminaries, etc., have introduced some kind of commercial course, and in order to meet still further this demand, four or five universities and colleges of the higher order have made what they term courses in higher commercial education.

The competition among these various institutions, conducted mainly for revenue, acts as a great sharpener and has resulted in larger courses, better teaching, better salaries for the teacher and a better product to assist in doing the country's business.

The standard of secondary commercial work has been raised greatly within the past ten years, and now in many places the commercial course is made the equal of any other course.

In my opinion it is a mistake to organize separate schools for manual training or commercial work. Education ought to be a unit. There is no more need for differentiating these subjects and forming separate schools with separate faculties, than there is for forming separate high schools for studying all kinds of foreign languages, or all kinds of mathematics and science. Commercial work, manual training, domestic science, etc., are simply phases of education, and ought to be taught in all high schools if they are taught in any. In great cities or in small cities the opportunity to take a course in manual training, commercial branches, foreign language, science, mathematics, etc., ought to be equal. But it can not be so if manual training or commercial work, etc., are put into one school building only. Segregation of subjects in secondary education is even worse than segregation of students. Almost the whole country has

announced its verdict on the latter, and it waits only a good opportunity to record its protest against the former. Congregation of teachers and subjects, not isolation, ought to be our watchword.

Manual training has been recognized, and yet in a comprehensive sense stenography, typewriting, mechanical drawing, penmanship, etc., belong to manual training and ought so to be recognized. It ought not to militate against civics, industrial history, economics, or Spanish that they happen to be placed in the commercial course.

Among the greatest stimuli which have contributed to better secondary school work, more time given to such work and to the character of the teaching in the secondary school, stands the custom of colleges in forming with the schools an accredited relationship. State inspectors of high schools everywhere testify that their work tends to rapid improvement of poor schools and to greater uniformity among the better schools. Now the business courses are so new that little, if any, recognition has been given to his work toward fulfilling college-entrance requirements. No greater stimulus could be given this work than to have the colleges recognize that it stands for just as much training as any other kind of work, and the student himself would have a more complete notion of what his course of study stands for, if such recognition were given.

We have spoken of the past and present place of commercial work, now let us examine its future. The commercial work has such a firm hold now that it will never cease to be an integral part of the course. If the high-school course is increased to five years, the business course will grow in like measure, and if, as seems probable, that when conditions warrant it, the high-school course is made to include the first two years of the college, the commercial course in high schools must increase until it includes the first two years of the course in commerce and politics. There can be little doubt that this is the present tendency, and considering the rapid progress made in this new field of education twenty years hence will find this

kind of education the safeguard of our business and commercial interests.

Under present conditions it is imperative that commercial students be required to pursue the course in the order mentioned, and so get the benefit of all auxiliary training. There is great danger in permitting too much election in the commercial course, because the inexperienced student often thinks that he has completed the entire course when he has a smattering of spelling, business forms, typewriting and bookkeeping. He forgets that English grammar, composition, modern language, commercial geography, industrial history, industrial chemistry, mathematics, etc., are the necessary concomitants of other studies. This directing of the student's work saves from the business world the raw product, and also saves the school from the charge of doing flimsy, shallow work. The student by such guidance is kept in school and grows in years and general judgment at the same time he is trying to complete the course of instruction prescribed, and so goes forth to business matured and rectified.

The question arises, touching the future of commercial work, as to who should be advised to pursue a commercial course in the high school. Often the entering student, with or without parental advice, has decided this question for himself; but generally it must be settled after the youth comes to the high school. We have answered the question in this way: (1) All students whose parents expect that their formal scholastic education will end with the high-school course, because this course contains more that is immediately usable than any other course; (2) those who are in doubt as to their future career but are sure they cannot, for financial reasons attend any higher institution of learning; (3) all who have natural inclinations toward a business career, and are restless to begin the more strenuous duties of life; (4) all who don't know what they want and can't be persuaded to take any other course.

What should such a four-year commercial course contain in

general? (1) Enough English to enable a student to read intelligently the best literature in the language; (2) enough composition and rhetoric to insure the student's saying briefly and pointedly what he intends to convey; (3) enough penmanship to enable a student to write rapidly and legibly any business task that may be set; (4) enough arithmetic to enable the student to perform quickly and accurately the operations met in any ordinary business; (5) enough algebra and geometry to create a taste for study of somewhat more mathematics than the average business requires, and to provide some surplus mental discipline before real business work begins; (6) enough commercial geography and industrial history to open the mind of the student to the fact that neither commerce nor industry comes by accident, and hence the importance of going to the sources for our information; (7) enough of civics, economics, and business law to make the student see the necessity of having a broad knowledge of men and their dealings with one-another; (8) enough of modern language to enable the student to conduct a foreign correspondence in at least one of the three modern languages, with a good reading knowledge of another; (9) enough laboratory science in each year of the course to train the student to see and classify at a glance; (10) enough bookkeeping, stenography and typewriting to enable the student to perform easily the ordinary demands made upon graduates in such subjects. Such a course may be mastered by a good student in four years, and the average student will have completed such work at or near the age of eighteen years.

No one can realize more keenly than the employer of commercial students, the need of all the auxiliary work mentioned, because general information in such work is becoming more and more necessary in order to command and retain the best positions. Added to this significant fact is its corollary that if a fairly intelligent young man or woman take the training offered by such a four-year course, the strength and breadth of

judgment which comes with years abundantly repays the effort of waiting.

We have attempted to tell briefly what place commercial work had, has, and is to have in the high-school curriculum. We insert here the Commercial Course in the Township High School at Joliet, Ill.

First year.—English; commercial arithmetic and spelling; algebra; physiography.

Second year.—English (rhetoric and composition); European history; commercial geography and mechanical drawing; plane geometry.

Third year.—German, French or Spanish; bookkeeping and office practice; business law and civics; physics.

Fourth year.—Typewriting, stenography and letter writing; political economy or American history; German, French or Spanish; industrial chemistry and physiology.

Any one may secure a copy of this course of study by addressing the writer.

THE PRESENT STATUS AND FUTURE OF MANUAL TRAINING IN THE HIGH SCHOOL

BY
GILBERT B. MORRISON
The William McKinley High School, St. Louis, Mo.

SYNOPSIS.

Universality of the manual-training idea as shown by the Louisiana Purchase Exposition at St. Louis.

Past expositions show manual training as one of the world's influences.

Universal neglect of fundamental principles of education has been one cause of the rise of manual training.

Manual training is the logical outcome of the teaching of Comenius. Comenius gives the mechanic as illustrating correct methods of teaching.

Similarity of the scientific and manual-training influence.

The Russian plan is generally followed and generally successful.

Distinction between "constructive work" and "mechanic arts," and the appropriateness of the latter for high schools.

Importance of the shop teacher. The dearth of shop teachers.

Effect of recent criticisms in degenerating the mechanic arts.

The new art movement—its influence on the mechanic arts. Great advance in methods of teaching art. Its adaptation to the grades. Over-reaching of the art influence.

Misconception of the true function of art.

True relation between utility, skill and beauty.

Short time given to mechanic arts necessitates close attention to mechanical requirements. Attention to essentials.

All subjects primarily vocational and incidentally cultural.

Artificial distinctions between vocational and cultural studies. All studies at first considered vocational. When a study ceases to be studied for use, it ceases to be valuable for culture.

The trade school—its relation to the mechanic arts in high schools. Danger of over-refinement. How to supply present demands for manual training teachers.

Too much expected of manual training. Its proper sphere and function.

Necessity of extending manual training to needs of boys not taking full academic course. Pre-conceived standards are yielding to more flexible ones.

One of the most obvious and impressive facts bearing on the whole matter of manual training in the schools was set forth and revealed to the world at the Louisiana Purchase Ex-

position at St. Louis, last summer. The fact is simple and will be admitted by all without argument. It is this: Manual training in the schools of all the countries in the world has become universal. No town in any country represented in that vast array of the world's best work undertook to make an exhibit without a display of handicraft of some sort. This does not mean that every school in the world has manual training, for there are many still without it, but it does mean that every town and city taken as a unit has accepted it.

Universal expositions reveal world tendencies and this is strikingly true in the case of manual training. The International Exposition of 1851 at the Crystal Palace marked the beginning of a movement in industrial education—education through the executive functions—that has culminated in a world movement exhibited at the Louisiana Purchase Exposition in 1904 at St. Louis. France had taken first place in the markets of the world for the beauty and finish of her manufactured articles. At the exposition of 1851 the cause of this excellence was revealed. An exhibition of the work of her schools showing great accomplishments in the line of industrial education set other countries to thinking. All the leading countries of Europe immediately took the cue and proceeded to make technical education a leading feature in their schools. This was done not as a matter of theory or sentiment, but as a necessity. Each country recognized that in order to hold its place in the markets of the world it must look after the education in skill and the executive functions of its youth.

Germany began early, perhaps, in a small way even before France, but it was not till the Paris Exposition of 1867 that Germany began to show to the world her rapid progress; and at the Vienna Exposition of 1873 her exhibit, according to the best information I can obtain, excelled all others.

An exhibition at St. Petersburg marks Russia as occupying an important place in this movement. It was here that Victor Della Vos first exhibited the system of tool practice that has formed the ground work of manual-training schools since that

time. This system, usually known as the Russian system, was first exhibited in this country at the Centennial Exposition at Philadelphia in 1876. It was the first attempt at giving instruction and practice in the principles underlying the various mechanical trades without teaching trades as such. Four years later the St. Louis Manual Training School was opened for boys.

The growth of manual training since that time is a matter of common knowledge. It has been a period of advocacy, of strenuous controversy, of school house building and of the gradual expansion of the manual-training idea until there is at the present time none to oppose it. The arguments for the educational and practical value of manual training have done their work and are known to everybody. It is no longer necessary to repeat, or renew these arguments. The conditions which made them necessary have passed. The problem about manual training, with which we now have to deal is of an entirely different character. But before proceeding directly to the consideration of this problem it will be necessary to speak of certain things which gave rise to the movement. This I shall do, not from any desire to criticise past or present conditions, but because our present problem can not be fully comprehended without firmly holding in mind underlying principles which are fundamental. I almost feel like apologizing for referring to these fundamentals, but there is no escaping it. In solving any problem we must go back and review first principles as often as we forget them. The problem before us is no exception.

The fundamental principles of education were laid down by Comenius more than three hundred years ago. But notwithstanding that they were echoed and re-echoed by Bacon, Milton, Locke, Rousseau, Froebel and a host of others, they had and still have to a large extent been forgotten or ignored by those who have taken the lead in educational matters since that time.

These principles are too well known to require repeating here. I shall only quote one of them. It is as follows: "Things to be done should be done by doing." "Mechanics," Comenius says, "understand this well; they do not give the apprentice a lecture upon their trade, but they let him see how they, as masters, do; then they place the tool in his hands and teach him to use it." Thus we see that Comenius selected the mechanic as typifying in his teaching the soul of the true method. The method is of course applicable to other subjects than mechanics, but the teachers of other subjects do not employ it.

The teaching in the schools became stale, lifeless, formal, bookish and impractical; it lacked life and virility and did not meet the demands of a progressing world. The general subconsciousness of this condition at last found expression through representative men in the various fields of educational thought.

It is not necessary to revive old arguments or to reopen closed controversies, but it is important to bear in mind the conditions out of which this universal acceptance of the manual-training idea has grown. Briefly, these conditions were: (1) Educational practice had departed from the fundamental principles of education—from the laws of acquisition. (2) It was necessary to return to these principles in order to meet purely educational requirements. (3) It was necessary to return to them in order to save the nations from commercial and industrial degeneracy; and all countries took up the movement and entered the competition.

The first of these conditions leads us to the consideration of manual training as a subject or branch of educational practice as appropriate to exemplify and revive the practical application of the laws of acquisition. In selecting the mechanic and his apprentice as illustrating the co-ordination of theory and practice, Comenius intimated an educational agency which would not only illustrate the principle, but would at the same time, if actually introduced into the schools, serve as a persistent, active

agency in exemplifying proper methods—an agency which would be in least danger of relapsing into a stereotyped formality.

Modern methods of teaching science have done much to reclaim lost arts in teaching, and manual training has done, and is doing much in exactly the same way. All that has been done since the Centennial Exposition in 1876 toward the introduction of manual training into the schools is justified on purely educational grounds apart from practical or utilitarian considerations. The Russian plan of teaching the principles and practice of construction through the study and manufacture of a series of exercises in regular sequence has been pursued since its introduction for the avowed purpose of general education as distinguished from trade education. It has been persistently held by every practical director of manual-training schools that trades are not taught, but the principles common to all trades are inculcated, and at the same time illustrated practically in the workshop. It has always been strenuously urged that the boys in these school shops are learning the nature of the materials upon which they work, and the processes by which articles of value are made through mechanical skill and art. The practical value of this work has always been freely acknowledged but its full justification has always been sought in its educational value *per se*. I believe the results in most cases of these schools have justified the claim, not only that they furnish a general training in skill of hand, in accuracy, in judgment, but that they have contributed life, sanity and virility in method and purpose to the academic subjects.

The value of this work and the truth of the claims which have been urged for it is proved by the growth, the popularity and the excellence of manual-training schools everywhere.

The success of these schools has been due in large measure to the qualifications of shop teachers who have been selected to teach in these schools and their peculiar fitness to carry out in a practical and efficient manner the requirements of theory and practice of mechanical construction. I mean by mechanical

construction as distinguished from constructive work in general, the intelligent practice in the use of tools which has been evolved by civilized man since the time he left the constructive work of building wigwams and began the mechanical work of building houses. The manipulation of a tool for constructive ends as distinguished from the crude constructive work of animals and savages has a special and a peculiar value which the evolution of ages has given to it. This value is imparted to a class of boys by a skilled mechanic, and it can not be imparted by anybody else. And I mean by a skilled mechanic a man who exemplifies in his own work the best theory and the best practice—a man who puts tools to their latest and best uses in the construction of typical forms.

The importance of the shop teacher is so vital to this whole question that I must dwell upon him a little further at this point. His importance increases as we shall leave the purely educational side of manual training and approach the economic side a little further on.

With the universal acceptance of the manual-training idea there have not come shop teachers in sufficient numbers to supply the demand. This is probably due in large measure to the tardy recognition of the relative value of this teacher. Salaries have not tempted competent men to prepare for a service which offered less than other professions requiring like ability. As a consequence there were not teachers enough properly fitted for the work to supply the needs of the schools as fast as the people were willing to build them. We were left in the possession of an idea without the adequate means of executing it.

Along with this dearth of shop teachers there arose a feeling excited by certain critical writers that while the value of manual training is acknowledged, the form of it in vogue in the schools is of questionable value; that it was becoming too mechanical, that it was not artistic, that the students' exercises were not useful, and that the work was therefore not inter-

esting to the pupils. These criticisms, it should be said, have been offered in a literary rather than in a scientific spirit.

Whether the dearth of shop teachers and a surplus of this literature have any causal connection, the result has been that the shop practice has, in many instances, been so modified as to require only such work as could be done by amateurs and mere tinkers from a mechanical point of view. Mechanic art as such fell into disrepute (temporarily it is to be hoped) and a species of "jack-straw" work was advocated and held to be superior on the ground of its "personal interest," its "usefulness," and its "artistic merit." This condition was strikingly illustrated at the World's Fair exhibit. This influence permeated at least half of the exhibits displayed there—exhibits of trifling objects of "utility" put together without the exercise of much care as to their mechanical value, and tatooed with a burning iron to give them "artistic" significance.

The cause of this temporary degeneracy in the mechanic arts may, in part, be attributed to the overreaching of another influence on which it is proper here to dwell briefly in order better to understand the unrest and chaos into which the minds of some of our shop teachers have recently been thrown.

Along with the growth of the manual-training idea there has been a movement amounting almost to a revolution in the methods of teaching art. In the place of the formal method of teaching drawing by rules, and by teachers regardless of their qualifications for this work there was substituted the artist who carried to it something of reality—some of the spirit of art and truth. Drawing became a means of expression and industrial art took the place of much of the thoughtless copying of classic abstractions. This spirit branched out and expanded in many directions. Adapted to the different grades and the varying ages and capacities of children it appeared as color work, still-life drawing, designing, modelling, decorating, and the various forms of construction work of a non-mechanical character. This movement has done much for the children of the grades in giving them partial relief from that process

of word learning which was so much overdone in the schools of twenty years ago. In placing the children under the influence of this work they draw their elements and units of design sometimes from nature and sometimes from the art and handicraft of the Indians and other primitive peoples.

It seems proper that this work should be given to the children of the primary schools. They are of an age which corresponds to that of the race and to that form of civilization preceding the mechanical. It cultivates the taste, the imagination, and exercises the co-ordinating power between the hand and the head. The spirit of this new art movement has taken absolute possession of the schools in some of our leading cities, and it will perhaps have to be admitted that like other good things long delayed and finally under way it is being somewhat overdone. This is especially true in its attempted application to or substitution for the mechanic arts.

This movement, in the ecstasy of its new being, finds expression in sayings like these: "Teach the beautiful, the useful will take care of itself." "It is not so much to make beautiful things as to make things beautiful." "Work without art is brutality." These phrases sound well, and properly interpreted convey certain truths; but as they have been employed to depreciate and belittle certain essentials and processes not in themselves related to art as a conception, they have done their share of mischief in beclouding and obstructing progress, and in diverting the attention from the larger significance of manual training. It is, of course, admitted that the artistic spirit pervades all good work taken in its aggregate. But it can not be admitted that all processes in mental or constructional acquisition can be accompanied by art at the time they are performing their true educational function.

There is, for example, nothing artistic in the art of finding the proper tense forms of a verb in the study of Latin. In demonstrating a difficult proposition in geometry there would be nothing gained by designating the angles by conventionalized clover leaves instead of by letters and figures. It is plain

that there would be a positive loss, because here the all-important thing is the following of the process of the demonstration. Neither has it ever been thought necessary for the student to demonstrate a proposition for the purpose of playing with it or of putting it to immediate use. In illustrating the parallelogram of forces to a class in physics, there would be nothing gained by constructing the diagram with colored chalk beautifully shaded. It is obvious that such a proceeding would not only be a waste of time but would divert the mind from the all-important thing—the mental process. Art enthusiasm has not taken such liberties with the academic processes in education. Why should it do so with the processes in mechanic arts? The process of making a perfect joint is as absorbing and as cultural in its own special way as is the process of mathematical, syntactical or physical analysis, and why should it be thought necessary to consider the one "brutality" and the others "discipline?" Such expressions all come from a misconception of the real nature and purpose of manual training when it has reached the plane of mechanic arts in the high school, and this misconception has wrought a serious hindrance to the proper shaping and normal growth of this agency as an educational factor in our schools.

In the foregoing, enough has been said directly, or by implication, in defense of the manual-training exercises as they have been employed and have served to give pupils practice in the mechanic arts in our best high schools. These exercises have served a good purpose and still might continue to do so even in the form first employed by Victor Della Vos. But there are men at work in the shops of some of our best high schools with a serious purpose directed toward the improvement of these exercises.

These efforts are being made in answer to these questions: (1) Can an additional value of utility in the thing made be included in the exercise? Can the exercises be made to consist of some useful thing? (2) Can the form of these useful things be so designed and wrought as to answer the legitimate re-

quirements of art? (3) Can this be done without interfering with that sequence in tool practice which is necessary to the development of mechanical skill?

From experiments of this nature which are now being carried on there is some reason to believe that this, to some extent, may be realized. The style of work known as "Arts and Crafts" which is a return to simplicity and truth in mechanical construction and which has come to us through the influence of the work of William Morris and others, seems to furnish a clue to the situation. Articles made after this style, while simple in construction and artistic in form and proportion, require the most rigid application of mechanical principles and are best made by the intelligent use of the best tools. In an "Arts and Crafts" table, for example, all the elements and processes are revealed in the finished product. The through mortise and keyed tenon call for the most genuine workmanship. Here the beauty is in the workmanship. It is its truth, its mechanical genuineness which gives it its value—its beauty. In the making of such a table the assembling of its four sides calls for a greater accuracy of construction than is required in making a single union of mortise and tenon, for it is in the assembling of parts that the defects and inaccuracies are revealed. It seems to me that such a table, well made, would be proof enough that a pupil had mastered the principles and practice of joinery, for it contains most of the elements of the Russian exercises.

I have just witnessed with the keenest interest and satisfaction the completion of such a table by two boys. The boys selected for the experiment were the best in a class of twenty-four. The results are instructive from several standpoints. First, from that of the time required which was almost equal to that given to the whole joinery course, they being allowed to work overtime and during outside hours. Second, from the skill it was necessary to have before beginning the work in order not to waste material. They spoiled one or two pieces as it was. Third, the pride and intense interest they took during the process. Fourth, the excellence of the quality of the work

when completed and the confidence and sense of power they enjoyed at the finish. None of their pleasure in this case came from ownership in the thing made for it was to be the property of the school. The consciousness of skill and power was their reward.

From the first of these results, it seems plain that the time usually given to manual training is too short to accomplish a finished product that will be worth anything as an educational exercise, with the exception of the very best and most active students. It may be noted here, however, that during the construction of this table the other boys in the class were working on a small model exercise of a table leg with entering rails, and their interest in their own exercise seemed increased rather than diminished by what the two boys were doing on the large table. It enabled them better to see the real purpose of their exercise and what it would lead them to.

From the second result it is plain that much practice on small exercises is necessary in learning the use of tools and the elementary processes before putting beginners to wasting large pieces of "stock" which would result without such practice.

The third result is important. Boys take a genuine interest in things that are really essential. And the essential thing here is the power to do things as men do them. The power to use a tool as a mechanic uses it is a real accomplishment at once recognized and appreciated by the average boy. This accomplishment is capital which has a real value not only as an educational force but one which is recognized by the mechanical and commercial world. A great mistake is being made by schools which are keeping boys occupied on mere tinkering that will never count for anything either as education or as utility.

Thus far I have considered the educational aspects of manual training. I now pass to its so-called economic or vocational aspects. This I do more for the purpose of calling attention to the artificial distinction which is often made between culture studies and vocational studies than for the purpose of perpetu-

ating this distinction by treating these subjects under separate heads.

In thinking of this question we often lose sight of the fact that all school studies are vocational and had their origin in the course from purely economic considerations. The first schools for higher education in this country were for preparing young men for the ministry and the curriculum was planned with that end in view. Greek and Latin were placed in the course because a minister was supposed to need them in his business. They were purely vocational. The Boston Latin School was established in 1635. In a school document the vocational character of this school is clearly defined: "It prepares boys for college. Thence they go out to follow the professions of divinity, law, and medicine."—School Document No. 15, 1889. The subjects were chosen with special reference to their practical value to the students preparing for these vocations. They were vocational studies. The universally recognized vocational character of the ordinary school studies has placed them in every school curriculum of the past regardless of the specific purpose of the school. Even in the trade schools the vocational character of the common school branches is assumed.

One or two examples will be sufficient to illustrate this fact. In the famous school of Watch Manufacture at Besançon, France, the course of study includes "everything bearing upon the work, such as arithmetic, mensuration, geography, mechanical drawing, geometry and composition." These studies are selected solely for their vocational value as much as is the tool work in the shops of this great school. Attached to the great printing house of Messeurs. Chaix et Compagnie, in Paris, there is a school for the education of the printers. Two hours a day are allotted to lessons in the schoolroom which is contiguous to the workshop. The course includes "grammar, and composition, arithmetic, reading of proofs, the study of types, engraving, and the reading and composing of English, German, Latin and Greek as far as to qualify for type setting,"

and a variety of other studies chiefly having a bearing upon the business of printing.

The diversity of courses of studies in colleges and schools in all places and at all times indicates that different people need different things as they will occupy this or that station, or will choose this or the other vocation. The theory that some studies are for use and others for culture probably originated among school teachers who wished to secure students. This notion persists even now, but it is seldom acted upon by those who are free to choose for themselves. All studies found their places in school curricula because they were useful to some vocations. Manual training is vocational as other studies are vocational. If properly taught it is directly useful to some vocations and indirectly useful to others. The same may be said of Greek, Latin, mathematics and music.

If it be contended that music is better than mechanics for a person who does not expect to follow either as a vocation, it may be answered that it would depend almost wholly on the tastes and powers of the individual. As a cultural accomplishment certainly none served to better advantage in studying the World's Fair than did a knowledge of practical mechanics. Of course, it goes without saying that it would be exceedingly desirable if one could learn everything, but as this is becoming more and more impossible, each and all must pursue those subjects that relate to their particular vocation. As everybody does this anyway the only apology which I make for the statement lies in the curious fact that educators are continually making the theoretical distinction between "cultural" and "vocational" subjects. The only subjects which are absolutely and necessarily common to all are the three R's.

I shall now state a proposition which will not receive universal assent, but which is, I believe, gaining ground in the minds of practical teachers. This proposition will clear the ground and open the way for a rational treatment of the present status of manual training in the high school and for consideration of its future.

The proposition is this: *When a subject ceases to be studied for use, it ceases to be valuable for culture.* I mean by use the power necessary to employ the thing learned as it was originally employed. If a language, as a medium of communication; if mathematics, as a means of actual measurement of quantity; if the mechanic arts, as power to construct according to the laws of mechanical construction and the best practice of mechanics.

When German and French were first introduced into the schools they were intended to be taught as vehicles of thought between these nationalities and not as mere media through which the laws of syntax and the rules of grammar might be illustrated and applied. When these languages can be used as vehicles of thought they become real culture studies, but the grammar and translation methods of learning them is beginning to be believed to be almost useless either as culture or as use; and a reaction is taking place toward a more direct method. When mathematics had its beginning, it was treated as a means to the measurement of quantity; it dwindled into mere abstraction and the manipulation of symbols and formulæ. A reaction is also taking place toward concrete methods of teaching it. As all school subjects have thus suffered at the hands of impractical teachers—have been allowed to drift away from their real function into "culture" studies, it is not surprising that manual training should suffer a similar fate. We see this tendency in the present movement to remove the real, the characteristic element—the purely mechanical quality—and substitute in its place a mere sentiment in the form of trinkets put together in the name of art, but devoid of the first principles of art, which, when applied to construction must be based on utility and truth as shown by work revealing strength and purpose and adaptation in the arts of machine building and architecture.

Manual training, like other subjects, had its origin in purely utilitarian motives. The first schools were strictly trade schools and had no conscious purpose beyond that of fitting the boy

for his future vocation. Of course, the cultural value was present as it was with the academic branches which were pursued along with the manual training—present, I believe, in truth rather than in mere name. The students from these schools rise above the common laborer and the unskilled workman and take their places among those most worthy to be honored—those who do the work that the world wants done.

Good results from manual training have come from the trade schools, because it is here that the work is directed to a purpose, and this purpose calls for the employment of tools as skilled mechanics use them; because it is here that true culture, the power to do, is made possible by the use of tools and machinery in their latest and most evolved forms—forms employed by mechanics. The progress which has been made in Europe along these lines has come almost entirely through the technical and trade schools established for the purpose of fitting boys for a vocation.

But I am not advocating that the trade school take the place of our manual training in our American high schools, although if I were to close this paper here, it would appear so. *But I am advocating that the work in our manual-training high schools should be done as mechanics do it; i. e.,* the process employed should be the processes employed by mechanics. If this is not preserved in our high schools the work will degenerate into a mere tinkering, possessing neither culture nor utility. The work in the schools of America must be such as to fit the boy to use what he has learned in a way that will command the respect of a practical mechanic and possess that sturdy and substantial quality which can be utilized in securing employment. This power to do, even if by chance his lot casts him into unrelated pursuits, he will still possess as culture, as reserve power—power which does not come at all in the making of tops and whistles and childish trinkets.

We are in danger of weakening manual training in our high schools by an effeminate over-refinement, and by a fear that our workshops will be regarded by somebody as coarse

and unrefined. This fear has led in some places to calling them "mechanical laboratories" instead of shops. Of course we all know that they are really laboratories in which the principles of mechanics are taught and applied in a way different from that which an apprentice boy picks up in a commercial shop, but to all intents and purposes these school work-rooms are shops in which the work is pursued in the true workmanlike spirit. The name shop should be retained because it conveys to the common people a definite idea of something tangible—an idea of a preparation for life's duties.

I can not share the fear of those who believe that there is danger of our shops becoming too practical—too much like real workshops. On the contrary, I would make them as near like real shops as possible, and through skilled mechanics as teachers make use of the latest processes used by the latest and best practice. These processes are secured through exercises and the manufacture of projects adapted to the capacity of the student. If possible, these teachers should be technically and broadly educated as many of them are. But above all things the shop teacher should be a practical man, a man who can command the respect of boys through his tools and his manner of using them.

Again let me emphasize the necessity of in some way meeting this enormous demand for the right kind of shop teacher. The success of manual training in this country depends upon it. It is plain that if there are not men enough to do the work as it should be done, then the work itself will be modified to a form which can be done by the unfit—the mechanically incompetent.

The greatest danger to manual training comes from an idea in the minds of many that manual training must do everything and contain everything. It is an important and indispensable element in our schools but it has its own special value. Its function is to keep our youth from drifting too far away from the industries of daily life, and to make their preparation for them in the best possible manner.

To those who would have the workshop possess all the

educational qualities represented by the whole curriculum, let me say that if the shop represented the whole of the boy's education and employed all of his time there would be just grounds for concern; but this is not the case. In reality the workshop at most can occupy only a very small portion of his time and it therefore seems to me important that this time be spent under an influence that will supplement rather than repeat the peculiar and more or less abstract and refined influences of the other departments in the school. Much as I would wish to see in the shop teacher, an artist, a thorough scholar and a finished musician, if all these things were possible; much as I would like to see our school shops possess all the combined influences of artistic, academic and musical influences—such a wish is manifestly absurd. All these influences stand for what they are and are valuable as necessary elements which make a complete and all-sided whole. So should it be with manual training. Let it stand for what it is, the necessary, fundamental influence in shaping the boy's education for a practical, sane, intelligent, industrial life.

So important is this sturdy mechanical influence to a boy's training that I firmly believe if he could spend a part of his time while taking his course of regular studies, even in a common commercial workshop with real workmen, it would be better, far better, for his education and training as a whole than is the piddling jack-straw work that is sure to be done in schools employing non-mechanical teachers.

This is of so much importance to the future success of manual training in this country as almost to justify the suggestion that the present dearth of shop teachers might, if necessary, be bridged over by intelligent practical mechanics, even though they be somewhat deficient in book-learning. Such men in the shops might perhaps require the more frequent presence of the principal or intelligent assistants to guard against that crudeness of speech and want of the proper moral and intellectual influence which might otherwise result. That such a suggestion should be necessary at this time is to be deplored and it

may, I fear, although offered as a mere suggestion, seem like heresy to my fellow believers in high ideals in manual training. But let it be remembered that "it is a condition and not a theory" that we now have to face—the condition of meeting the universal demand for the mechanical element in our schools. This condition must be met. The expectations which the activity of the past decade has aroused must not be disappointed. The bridge we now have to construct over the inadequate and real present to the adequate and ideal future, if it can not from a lack of skilled teachers be built on scientific and artistic lines in all its parts, it must at least be built strong, rugged and practical, giving those who are passing over it a feeling of safety, if not of complete æsthetic satisfaction. In closing this paper I shall try to point out a condition in our schools which it seems to me right and reasonable to hope for in this country—a condition which is already being partially realized in a very few places.

In the most evolved type of modern high schools, there is nothing in the name to indicate that manual training is in the curriculum, yet these schools have an equipment in manual training for both boys and girls surpassing that of earlier "Manual Training High Schools" so called. This equipment has taken its place naturally as has that of science laboratories, as an essential and integral part of the high school. While "Manual Training" has disappeared from the name, the equipment for this work has been increased and improved. The tools and machinery are of the latest design and call for teachers skilled in practical and theoretical mechanics. The Art departments are conducted on industrial as well as artistic lines and correlate closely with the shops in suggesting appropriate designs. These schools contain all the academic branches; and an elective plan from groups of studies enables a pupil to select a course adapted to his wishes and his future needs.

In the shops these things are held to be essential and in the following order: 1. The utility of the exercise or the thing made. 2. Good workmanship. 3. Beauty in construction.

The usefulness of the thing made may mean that it may be of immediate use, as a piece of furniture, a lamp stand, a pair of andirons, or a jack screw; or it may mean an exercise into which a boy has put his best efforts in expressing the correct elements of mechanical construction, the further usefulness of which will afterwards be realized in every piece of mechanical work he will ever do.

The short time which, at best, can be given to shop work will not enable all boys to realize finished products in the shape of usable articles, except of the simplest kind, but this time if spent rightly will make even the slow boy's work in the proper use of his tools respectable in the eyes of practical people. A boy who can finish one mortise and tenon joint and make it well will be more proud of it than he would be of a finished trinket which he could buy at a ten cent store. Boys like to work "man-fashion" and by making the work robust and real from a mechanical point of view the introduction of manual training is justified and appreciated by the people who are sending their children to school to prepare for life's responsibilities. Finished products are realized by some of the pupils who are stronger and faster than others and these stand as models to show even the slower ones the real nature of the work, and the direction toward which it is tending.

The second essential, good workmanship, can be realized in a boy's exercise, be it ever so little; it may consist in the proper use of his tools and the mastery of the elementary processes of mechanical construction; or it may go further in a stronger boy and appear in a well made piece of furniture or a piece of machinery; but be it finished or unfinished, it must be in the right direction as far as it has proceeded—a direction which counts for something considered either from a cultural or from an economic standpoint. It must demonstrate power to do—power to use the tool as an evolved civilizing agency.

The third essential, that of beauty in form and proportion is important. Good designs are constantly placed before the students and they are encouraged to make original ones. Many

boys make fairly creditable designs of simple orders, after the suggestion has been given them. In the planning of a useful article by those who in the short time which can be given to this work get ready for it, careful attention is given to form and proportion. The teacher supplies that which the pupil would fail to do if left to himself. This he may do by suggestion or by furnishing the whole design according to the ability of the pupil. All pupils can not be treated in the same way. No time is spent in surface decoration before the elementary processes of construction have been pretty well mastered.

Manual training in the high schools should be open to those who want it. It should not be forced upon those who do not want it; and there is a growing feeling that this should be the case with many other high-school studies which are at present made obligatory.

The manual-training high school of the future will probably extend its usefulness by providing special work of a more intensive character for those who are especially adapted to mechanical pursuits and who show very poor ability in academic lines. The high school of the present has not provided this work for boys who are unable to take the full academic course. The result is that it often happens that the boys who want manual training and who need it most are forced to leave school on account of inability in other lines. The true function of the public high school is to find every boy of high school age and keep him at his best during the high-school period. Pre-conceived standards of scholarship have their uses, but they should not be allowed to stand between the real teacher and the real boy as the teacher finds him.

[The course of study that follows is worthy of careful study. It is especially advantageous because the vocational courses can be seen in their relation to the whole.—Ed.]

MODEL HIGH SCHOOL COURSE

PREPARED BY GILBERT B. MORRISON. ST. LOUIS.

1905

CLASS	TERM	BUSINESS	DRAWING: ART	DRAWING: MECHANICAL	ENGLISH	HISTORY AND ECONOMICS	LANGUAGE: FRENCH	LANGUAGE: GERMAN	LANGUAGE: GREEK	LANGUAGE: LATIN	LANGUAGE: SPANISH	MANUAL TRAINING: DOMESTIC ARTS	MANUAL TRAINING: MECHANIC ARTS	MATHEMATICS	MUSIC	PHYSICAL CULTURE, BOYS & GIRLS	SCIENCE: NATURAL	SCIENCE: PHYSICAL	SCIENCE: TECHNICAL
FIRST YEAR	FIRST	Commercial Arithmetic, Penmanship,	Modelling, Nature Composition,	Sketching,	American Classics and Composition,	Ancient,	French,	German,		Latin,	Spanish,	Elementary Sewing,	Joinery,	Construction at Geometry,	Scales and Reading,	Class Drills, Games,	Zoology,	Physiography	Botany,
	SECOND	Penmanship, Business Forms,	Sketching, Color Work,	Elementary Mechanical Drawing,	American Classics and Composition,	Mediaeval,	French,	German,		Latin,	Spanish,	Machine Sewing,	Joinery and Carving,	Algebra and Plane Geometry,	Technique and Dictation,	Class Drills, Games,	Zoology,	Physiography,	Forestry,
SECOND YEAR	FIRST	Bookkeeping,	Sketching from Life,	Problems in Descriptive Geometry,	English Classics and Composition,	Modern,	French,	German,	Greek,	Latin,	Spanish,	Dressing and Dressmaking,	Turning,	Algebra and Plane Geometry,	History and Composition,	Gymnastics, Games, Athletics,	Botany,	Meteorology,	Graphics,
	SECOND	Bookkeeping,	Historic Ornament,	Pen and Ink Work,	English Classics and Composition,	English,	French,	German,	Greek,	Latin,	Spanish,	Millinery,	Turning, Moulding, Pattern Making,	Algebra and Plane Geometry,	Chorus, Musical Terms,	Gymnastics Games, Athletics,	Botany,	Mineralogy Geology,	Mechanics, Heat,
THIRD YEAR	FIRST	Office Practice, Commercial Geography,	Applied Design,	Machine Drawing,	Rhetoric and English Prose Forms,	American,	French,	German,	Greek,	Latin,	Spanish,	Laundering,	Forging,	Algebra and Solid Geometry,	Harmony,	Fencing, Gymnastics, Athletics,	Physiology,	Physics,	Light, Sound,
	SECOND	Stenography, Typewriting, Commercial Law,	Art Crafts in Paper and Cloth,	Architectural Drawing,	Rhetoric and English Prose Forms,	American,	French,	German,	Greek,	Latin,	Spanish,	Cooking,	Forging, Hot Metal Work, Tinsmithing,	Algebra and Plane Trigonometry,	Chorus Work,	Fencing, Gymnastics, Athletics,	Physiology,	Physics,	Materials and their Properties,
FOURTH YEAR	FIRST	Stenography, Typewriting,	Art Crafts in Board and Leather,	Machine Design,	English Rhetoric, Poetry and Essays,	Civil Government,	French,	German,	Greek,	Latin,		Cookery,	Machine Shop Practice,	Descriptive Geometry,		Field and Track Work, Games,	Psychology,	Chemistry,	Steam,
	SECOND	Stenography, Typewriting,	Art Crafts Work in Metal,	Elective,	English Rhetoric, Poetry and Essays,	Political Economy,	French,	German,	Greek,	Latin,		Home Science and Sanitation,	Machine Shop Practice,	Surveying or Astronomy,		Field and Track Work, Games,	Elective,	Chemistry,	Electricity,

NOTE:—This schedule of studies provides for the work which should be furnished by a large high school. From this schedule any combination of courses can be devised to suit the various opinions concerning such matters. But it is suggested in view of the growing tendency toward flexibility that the making up of pupils' courses be entirely individual, each pupil's needs and desires being considered separately and his work made up term by term from a partial cross section through the schedule horizontally.

THE PRESENT STATUS AND FUTURE DEVELOPMENT OF DOMESTIC SCIENCE COURSES IN THE HIGH SCHOOL

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SYNOPSIS

Subjects of *social* value must be given in the *elementary* school in such a way as to secure valuable habits and manipulative skill.

Development of reasoning power, and application of science belong in the high school.

Principles and relations should receive special attention in colleges.

Practice again belongs in professional and post-college schools.

Domestic science in the high school should concern itself enough with the working machine of productive daily life (social and economic questions in an elementary way to be sure) to leave an impression of forceful reality.

It should not be burdened with the work of other departments and especially it should not be expected to *lay its own foundation,* a thing not required of other high school subjects.

In elementary and secondary schools, we claim that education should produce:

Social efficiency, character as expressed by truth, honor, self-sacrifice and co-operation.

Economic efficiency, self-support, not a social debtor, adding to group possessions and pleasures, a productive citizen of the state.

Individual efficiency, personal health, joy in living, contributing, in self and children, to race progress. For the individual, better physical condition for work and for pleasure. For the state, it should result in securing for the child such environment and atmosphere as shall permit full intellectual and spiritual development of the soul.

A good course in domestic science can contribute largely to the production of these educational results.

The teaching of science in the high school has suffered because of the tradition prevailing since the organization of the English High School of Boston in 1821, "that it is required of all the masters and ushers as a necessary qualification that they should have been regularly educated at some university."

The attitude of the university man toward science and particularly toward those branches of science which have to do with the activity of daily life is not an attitude adapted to make him a good judge of or a good teacher of those sciences which deal with *"the great end and real business of living"* which was the avowed object of the first chartered academy in New England—Philips Andover. The high school as we know it, while the successor of the academy in many directions has not yet obtained full emancipation from the college influence, since its courses and the method of dealing with many of its subjects are to a great degree controlled by university ideals through the college men on its staff.

We shall not see the full development of science teaching in the high school, and of all that depends upon it, until the teachers are those trained in scientific rather than in academic ideals.

If by high school we understand a truly higher education, complete in itself as far as it goes, but yet a safe foundation for college and university work for those who can go on, then a form of applied art and science is imperative for the rounding out of a course which is to teach the human being something of his environment, to teach the laws under which he lives and to lead him to appreciate the power which is his to use as soon as he is worthy.

In the high school should begin the application of such sciences as have been learned, which may be continued into the college, or which may serve as a basis for future building upon in the course of the life work.

The high school has ever been "near to the people" in the endeavor to make the years and money spent effective. It has been at times more plastic than any other form of education, more readily molded to the need of the time. This is shown by the rapid introduction of laboratories and laboratory methods and by the engrafting of business and commercial subjects upon the curriculum. And yet each study which tends toward "the great end and real business of living" has been through

the ordeal of college entrance requirement successfully passed, such as geography, which was first required at Harvard in 1807, algebra in 1824, ancient history in 1847.

Let it be granted that the theory on which the American high school is to be developed in the twentieth century is not yet clearly defined. We see two tendencies, the one fostered by the academic ideal as set forth by college entrance boards "to emphasize the psychology of the individual" and to articulate the work with the college. The other to meet the demands of civilized and progressive society as it exists, by a differentiation which shall give restricted freedom of choice to the pupils. This differentiation has been, perhaps, most marked of late in the subject of manual training. But it has resulted in cleavage rather than in articulation. Because the great body of school men have had no training in and do not understand the power and purpose of manual training, it has been found best to develop it in separate schools in such communities as are large enough to support two or more high schools, under teachers who believe in the invigorating intellectual effect of "an intelligent mastery of tools, materials and methods of construction," and in the fully proved pedagogic value of this stimulus of power over things.

Because of the opposition of the academic mind to the introduction of manual training, it was put in under the lead of those who were most strongly impressed with its practical value. It could not be properly correlated in the ordinary school, because the opposition presented a solid front. Only recently have wedges been driven into the slowly crumbling walls of prejudice, so that now a possibility of using the subject to stimulate all pupils, whether fitting for college or for life, is in sight. Domestic science has been in an even worse plight. Repudiated by manual training, and scorned by academic learning, it has made its way by sheer force of proved value. It has come to stay, and we may as well take up the task of adjusting the relation it should bear.

It may be acknowledged at the outset that much, if not

most, of the domestic science now taught in high schools, especially when it is found in them only, is *grade work*—mere accumulation of facts and mere manipulation—with perhaps an attempt at introducing fundamental science because in no other course is it found; or, more is the pity, because the curriculum demands that the domestic science be given *before* the fundamental science courses are taken. That is, the makers of the high school program do not recognize domestic science as an *application* of scientific knowledge *previously* attained, do not give it the place of a king bolt to hold together the previously accumulated parts of the curriculum.

Furthermore, because the science teacher could not or would not help to correlate the various branches, the teacher of domestic science has been obliged to give both the elementary science and the application of it to the detriment of the subject itself and to its estimation by the public. The time given has not been sufficient, the knowledge of the dozen sciences required as a foundation has not been deep enough on the part of the teacher; she has not dared to say "I do not know;" and therefore the better grounded physics and chemistry teacher has had reason to repudiate the claims made to scientific presentation of domestic science.

On the other hand, because of this forcing of the science teaching into imperfectly prepared hands, the work intruded into the high-school curriculum under the head of domestic science has been too often not only unscientific but has lacked any basis of science.

If the high school were a trade school, dealing with results, not principles, then the practice might be accepted without the theory. A typewriter is not required to learn the mathematical formulae upon which the mechanical construction of his machine depends. Why should a girl learn how to calculate a standard dietary? If she is to be a cook she should not spend time for it. But if she is to become an intelligent citizen, serving not only her own family but on charity and hospital boards,

she needs the knowledge, and more than all, she needs the intellectual grasp of affairs which her mind gains in the process.

The terms science and art have been sadly confused. Because a Vermont Yankee or a southern mammy, by reason of long years of skilled labor and a love of good living, can make a score of dishes of exquisite flavor and consistency, it is held by many school men unnecessary and unpedagogical to teach the composition and nutritive properties of food and the scientific principles which underlie its proper preparation. The high school does not and should not make cooks, it should make girls into intelligent women, intelligent in every day matters as well as in ancient history. The public has insisted upon the skill which only comes with the long practice of a trade, *i. e.*, an art. Between the three, the science teacher, the pedagogue, and the public, the director of domestic science has been driven to offer a course which is either science or art in spots. She must include much which has no science, but which is only method of procedure, order or acknowledged way of doing things. This is because public ignorance has insisted that work which has no science at bottom shall be called by that attractive title.

There are correct ways (good form) of wearing a hat, of serving a meal, of paring an apple, of toasting bread; but although there may be a better, there is no right or wrong way. It is the result which is to be considered and this is arrived at by several methods. There is a right way to set up an electric battery but not to sweep a room. Did two milliners or dressmakers or cooks ever accomplish results in the same way?

It is the insistence on good form in place of science, on the art rather than on the knowledge of principles which has brought so much of the household arts teaching into disrepute among scientific men and academic leaders.

Is there then neither science nor education in the group of subjects known as domestic science? Indeed there is much of both if properly introduced and correlated, but foreign matter introduced into living tissue is certain to cause irritation; and

because of public demand and because it was less expensive to equip one high school with kitchen and sewing room than to fit up thirty grade schools, the teaching of facts and habits and of mere methods of work has found its way into a position it cannot maintain.

Personal habits useful for the survival of the human animal in its present surroundings must be thoroughly learned at an early age. The high school comes too late, the mischief is done and can be undone only with tears and time. Muscle training in relation to future practical application, use of saw and plane, of needle and of cooking processes to be successfully and *economically* given must come before high-school age. Mere tool work, mere cooking and sewing belongs in the grades where each motion learned stays learned. Muscle never forgets. In other words, the work of the grades should include *manipulation* of as many as possible of the materials which enter into the daily routine of life without attempted explanations. The child of ten or twelve can learn to boil and filter water and to wash hands and face, to keep fingers clean and off from possible dirt, to cook vegetables and broil steak, to make chairs and tables for a model house, to make anything to scale from drawings, to choose colors and fabrics. He may learn the thousand and one *habits* and muscular motions which acquired at this age without conscious effort, are never forgotten.

To explain this position it only need be assumed that subjects and methods which have great social value, which are necessary to the welfare of the community, must be taught in the elementary school where alone *all* citizens receive an impetus toward individual and civic efficiency.

Secondary education, on the other hand, reaches a class upon whom we ought to be able to depend for the application to every day life of the results of scientific investigations in hygiene and sanitation; but at present there is little sympathy and co-operation between the investigator and the public. This sympathy can be established by those who are interested in practical affairs and who have been so educated as to understand

the scientific spirit and to be conversant with the scientific method of work.

If the teacher of domestic science in the secondary school is to form part of this important connection between theory and practice, and is to aid in establishing sympathetic relations between the investigator and the public, she must have opportunity for a more thorough scientific training than our present normal courses offer.

Once this stand is taken, the curriculum of the high school is relieved of one part of its present incubus. But a stumbling block remains in the sequence of science subjects as now tabulated. Chemistry is often found in the fourth year and cooking in the first; drawing in the third year and sewing in the second. The difficulty will disappear once the subjects are accepted not as ends in themselves, but as foundations on which to build.

The following outline for an ordinary high school, not one devoted to manual training particularly, is given as suggestive of a logical order, each year being an addition firmly welded to what has gone before. The assumption is made of good "grade" foundation in elementary botany, physiology, etc., and in manual and physical training. The time taken is distributed so as not to interfere with the other essentials. The serious change is in introducing the sciences earlier than usual, and in a somewhat different order. The reason will be evident on examining the character and range of the illustrations.

The civic and economic side requires maturity of mind, and brought in at the end enables the young student to gather up all school experience into an ethical ideal of great value as school is left behind and life is entered upon. If something on this order is not given, the scholar goes out into the world not only ill prepared to meet conditions, but with the feeling that school has been of no value, or has had no connection with what follows.

It is true that physics is more often a second year study; but certain aspects can be given in the first year of the high

school better than chemistry and there is a gain in dividing a subject of so much theory and so capable of developing reasoning power. There is an advantage in impressing upon the young student the fact that a science can never be finished—it goes on into the university, the professional school, life. School physics should not deal with the whole science but with parts of it especially adapted to the student.

AN OUTLINE FOR DOMESTIC SCIENCE IN THE HIGH SCHOOL

(Based upon at least three years' work in the grades in which evident facts and manual skill have been acquired.)

First year: 2 to 4 hours weekly.

Hygiene.—First aid to the injured; standards of personal health emphasized.

Physiology.—Review; study of functions, etc.

Drawing.—Working drawings, form, design, color, historic ornament.

Textiles.—General study of, including their uses; form and color as applied to garments.

Physics.—Mechanics of solids, liquids, gases; heat.

Second year: 2 to 4 hours weekly.

(Science applied in cooking, cleaning, and other aspects of domestic life.)

Historical.—Practice in use of library.

Experiments.—Showing effects of heat, expansion of gases, etc.

Economic botany.—Plants and seeds used for fabrics and food. Drawing and design may be continued in this connection.

General chemistry.—(First half year.) Emphasis given to elements that enter into foods.

Physics.—(Second half year.) Heat reviewed; electricity.

Third year: 2 to 6 hours weekly.

(Applications of scientific principles to daily life.)

Physiology of digestion.—Saliva; pepsin; intestinal digestion; predigested foods.

Preparation of foods.—Protein foods; carbo-hydrates; fats; food adjuncts.

Foods for the sick.

Balanced ration.—Dietary study for one day; marketing; meals cooked and served; (this is not essential in the college preparatory course.)

Biology.—Most familiar plants; algæ; molds; mildews; yeasts; bacteria in air, water and food.

Chemistry.—Analysis, including ash of foods; preservatives.

Fourth year: 4 to 6 hours weekly.

Sanitation and civics.—(1) House—soil, surroundings, construction, plans, plumbing, ventilation, heating, cleaning. (2) Food—water supply; purity in foods. (3) City—laws on sanitation. (4) Disease—prevention; care of sick.

Economics.—Cost of living—house, clothing, food; higher life; standards.

Chemistry and physics.—Applied in air analysis and disinfection; in discussing plumbing, ventilation, heating, house site.

Botany.—Review bacteriology.

Drawing and design.—House plans; house decoration—form, color, materials, use. (Color and form in dress may be elective.)

An indispensable adjunct to any high-school course is the collecting of material for a school museum. To be educative in the fullest sense this museum should be the work of the class itself and when completed may be given to an industrial school in the neighborhood or exchanged for a collection made East, South or West or in a foreign country, selections being retained for the home museum.

Drawings, models and sketches may be kept on file for the criticism of the next class; also menus and photographs of the table as correctly laid.

Colored photographs of the designs in house and dress will serve as a basis for advance and will save much time in acquiring a right point of view.

Photographs of badly kept alleys, as well as of cleanly; of streets with cheerful window boxes, contributed by the boys, will tend to unite the school in ideals of civic improvement.

Indeed, the school museum should be the joint work of the boys and girls. The application of their common science may be various but the commonness should be brought out. There is not one chemistry for the farmer and another for the housewife, only different applications of the same science.

The above is a mere sketch of the order in which application may be brought in to fix the principles taught. Exercises in English composition for both boys and girls may cover the investigation of shops and markets, of means of transportation and methods of manufacture.

The futility of much of our present teaching is illustrated by the answers of a high school graduate to questions on electricity and its uses. "There were two kinds, one in the clouds and one kept in jars. It was used to run batteries and to light the gas." This child lived in a city with electric cars and electric lights in the streets.

The public money expended on high schools should produce more effect on the progress of the community. For these selected children should be in training for efficient, capable leadership in public as well as domestic affairs. The wise spending of money from the public purse for the general welfare requires a knowledge of the materials and processes used in the service of the state. The much deplored graft is possible only when the majority are so ignorant as to permit of misappropriation of public funds.

If, as has been claimed, domestic science has for its chief object the teaching of the fourth R, right living, then it means present day knowledge applied to the home, with as much educative manipulation as is needed. But the basis of the teaching is scientific truth made to do service for better family living. This applied science is of the nature of other well developed courses in which physics, chemistry, biology and engineering are drawn upon for laying foundations for social habits which shall lead to successful results in human efficiency. It is not, as found in the school course, for the purpose of trade training any more than the teaching of music, now so firmly insisted upon, is given for the purpose of making great artists. It is, or should be, given with the same end in view as music, drawing, and French—that is, of developing the powers of the individual, of enabling him to enjoy this world more, to care for himself better, to live a saner, more wholesome life.

If the elementary school gives the foundation of habit and of manipulative skill, the secondary school can build a structure of reasoning power, can require the pupil to *think out* the probable result of certain proposed combinations, such as the form which certain mechanical operations should assume, or the re-

sults which given chemical combinations will produce. The secondary school can put in the hands of the pupil such tools as will excite the brain to activity, to curiosity, if you will, as to the why and how.

I believe it to be a lamentable fact that much of our high-school science is now wasted because the pupil sees no more use in it than in Greek verbs, and that just the fillip of interest could be added by the illustration of application in daily affairs. The unknown and the abstract must be closely connected with the known and concrete, else the art of learning will not be acquired. Fully ninety per cent of the pupils who take courses in physics in the high schools (and in colleges as well) will open the window at the bottom to let out bad air, although they know the abstract fact that gases will expand and rise when heated. Perhaps ten per cent of these same pupils will clean gloves close to the gas jet or light a fire with kerosene. The interest of the child of high-school age could be caught easily and fixed by illustrations of and demonstrations with the materials of daily use in our homes. Interest once aroused, the *reason* for the phenomena seen and the desire for experimentation to discover other phenomena is easily developed. Abstract science does not fix the attention sufficiently to make a lasting impression in the case of the average pupil of high-school age.

This illustration of scientific principle by the activities of daily life is rendered imperative in the school *because it is not made in the home*—because of the failure of the parents and the home to do for the children of today what the parents did for the children of the day before our system of education was developed. This failure is due not to incompetence, it is due to an impossibility for any mind, except it is trained to think along modern lines, to take in, for instance, the significance of the practical possibilities of the discovery of x-rays and radium. The average parent has scarcely become adjusted to microbes and toxins. He does not know the meaning of half the words his young children use so glibly.

It may be replied correctly that we all use means and ma-

terials without knowing anything about their nature, and it may be argued that therefore it is not necessary for any but the manufacturer to know fundamental principles. For practical purposes it is sufficient to press the button or turn on the switch without knowing anything about the native properties of electricity.

In a sense this is true. The under carpenter uses boiled linseed oil to polish off the woodwork in a college hall or fine residence. If the head man, who does know, happens to be by when he has finished, he will see to it that, if it cannot be burned at once the soaked cloth is put in a metal receptacle on a cement floor. If, however, the workman is by himself, he is more than likely (judging from experience) to drop the cloth down the nearest hole under the porch, rather than to take the trouble to go the length of the building and put it away properly. He does not *believe* it will do harm. Result, a fire and destruction of the building.

A scrutiny of the newspaper columns for one week only would convince the most skeptical that hundreds of lives and millions of money are lost because of the ignorance of the masses of the dangers which they incur along the path of their daily duties.

Since prevention is an accepted method of dealing with other evils, why not, in the course of education, give the child the means for his protection? Then *interest* him in science by showing him the *use* of it. It seems to be a universal truth that all children have an instinct which leads them to apply all the facts they get. It may be that much of what looks like application is mere imitation, but my experience with boys and girls only twelve years of age in our public schools leads me to believe they are quick at real application of scientific principles if properly presented.

When all has been said, however, it remains true that the greatest opportunities to promote social welfare and social progress lie not in the better organization of business and manufactures, nor in the fairer distribution of income, although

there are great opportunities in these directions, but precisely in this field which woman is urged to abandon, viz., in the better use of social resources, the better organization and direction of our domestic affairs.

If, as Carroll D. Wright states, the struggle of labor is and ever will be toward a higher standard of living, then it is a legitimate use of public funds to give to those educated at public expense a solid foundation upon which to build standards which shall lead to greater personal and civic efficiency.

Today all youth have a right to demand an elementary knowledge of the *principles* of science, including mechanics, electricity and chemistry. They have a right to ask for well-balanced bodies as well as minds, and to be put in sight of a path which will lead to a useful life, and given the first set of tools with which to work, diverse as life's paths are diverse.

It is with this thought of higher personal efficiency that those who are advocating the study of home economics or home science wish to see it placed in every school in this country. Just what the subject stands for has been suggested in a tentative definition as follows:

"Home economics in its most comprehensive sense is the study of the laws, conditions, principles, and ideals which are concerned on the one hand with man's immediate physical environment, and on the other with his nature as a social being; and is the study especially of the relation between these two factors."

Edward Devine has advocated giving in school and college "the elements of household economics, whether of the kitchen, the living room, or the sleeping room, the cellar or the attic, the front yard or the back yard, the architecture, the decoration, the care of children, the family budget, or even, if you like, the perennial problem of domestic service. These subjects, properly taught, are eminently suited to the development of the very qualities for which the traditional seminary course makes no provision.

"They are neither 'classics' nor 'natural sciences' in the

sense in which these two groups of studies have been used in the battle royal for a chief place in the college curriculum, but rather belong among the logical sciences; that is, those which develop observation and reasoning in a natural and logical order, a group which, represented chiefly by economics, sociology, and politics has been pressing successfully but unostentatiously to a foremost place. I would advocate, therefore, the study of household economics, not with a view to the making of better cooks, waiters, cleaners, and caretakers—though these will come incidentally—but because such study dignifies and invests with a ten-fold interest the routine and drudgery of household affairs; and also because the subject most naturally lends itself completely to the kind of instruction which women most need."

DISCUSSION OF THE TRAINING OF SECONDARY TEACHERS

CHARLES A. McMURRY

I have given the Yearbook a careful reading and am greatly pleased with the whole execution of the plan. I have one line of thought to suggest. The problem of training teachers in both normal schools and universities involves, as one of its chief difficulties, the induction of the young or inexperienced teacher into the difficulties of actual practice. All pure theorists both in normal schools and in universities persistently dodge this problem. Reasons, excuses and explanations are invented, manufactured and multiplied in order to escape from this problem. No coward ever invented more reasons for keeping out of battle, for hiding behind stumps, than the theoretical pedagogue will invent for escaping from the hardships of teaching. There must be deep down in the consciousness of the pure theorist the conviction that his theories will not stand the test, that they will dissipate like mists in the presence of real difficulties. Whether he thinks so or not, everybody else does. Among the rank and file of good teachers, the theorist who declines the smoke of battle, who like Xerxes takes his safe position in some high tower where he can overlook the battle, is regarded with intermingled suspicion and distrust. Superintendents and supervisors who talk glibly and learnedly about philosophical theories, about psychology and method, but leave all the actual handling of children to others are not conscious how empty and farcical their work appears to real teachers.

Such statements as these may seem radical and possibly unjust. But anyone who will take pains to inquire into the facts will soon find that they are just. It is my opinion that no error in education is so deep-seated, fundamental and disastrous as the opinion of the theorist that he can safely trust his conclusions without more or less constant resort to actual practice.

It is this false security which makes so many of our leaders in education blind leaders. It is this which makes such a wide cleft between the great body of actual teachers on the one side and the theorists on the other.

Theory and philosophy of education are just as important as practice; but neither one of them comes to a proper fruitage till they are combined, and it is the combination of them which is the crucial difficulty in education. To be a mere theorist is to be an empty face; to be a mere practician is to be a narrow formalist. To rationally combine them in the actual work of education is one of the greatest achievements of a broad and efficient character. The university as it exists to-day is no proper place for the exhibition of this narrow isolation of theory from practice. The medical school with its clinics and hospitals, the engineering departments with their shops, the agricultural department with its farms and experiment station, the department of architecture and fine art, and all the professional schools are now pre-eminently characterized by the practical side being brought into closest relation with the general-theoretical.

The educational department at a university is distinctly and solely professional. Otherwise it would never have existed. To make it purely theoretical is to put it into contradiction to the present spirit and intent of all professional schools at the university.

Moreover these conclusions are strongly confirmed by the history of educational departments at universities in this country and in Europe.

At the University of Jena, Stoy for nearly forty years maintained a chair of pedagogy and a practice school where he trained in all about 600 teachers for the secondary schools of Germany. Probably no other man of his time in Germany produced so strong an influence both theoretical and practical upon the schools. Ziller did the same kind of theoretical and practical work at Leipzig, and during the last eighteen years Dr. Rein has stood foremost among educators in Germany,

keeping up a practice department for secondary teachers in connection with his lectures in psychology and pedagogy. Earlier still Herbart did the same kind of combined theoretical and practice work for twenty-four years at Königsburg.

These four men, by combining theory with practice in their work at universities, gained a reputation and an influence tenfold greater than that of any mere theorist who lectured on education at a university. There have been dozens of men who have merely lectured on education but their names are in the main unknown to the world. In America the same phenomenon may be observed. Dr. Dewey at the University of Chicago, by combining his lecture work with a practice school, where he met actual difficulties, has gained a leadership in educational thought in America which is most instructive.

The Teachers College at Columbia University and the School of Education at the University of Chicago, by dealing directly with the problems of education as shown in actual school practice, have given an example to universities in this country which promises great things for the future. The characteristic, pre-eminent mark of a first-class teacher in Germany is his recognized and proved ability to instruct young people skillfully. It is to be hoped that the time will come in this country (and will not be too long delayed) when leaders in education, superintendents, supervisors, normal school teachers, professors of pedagogy and psychology and lecturers on education shall first of all win their spurs and establish their right to leadership by applying theory to practice by the actual work of managing and instructing boys and girls skillfully.

By CHARLES B. GILBERT.

Since my work has had to do not with the preliminary training of teachers, but with their employment, and since I am compelled to supplement the work of the training schools, I shall write from the superintendent's point of view and indicate what seems to me some of the most serious lacks in the teachers of secondary schools, which might wholly or partially be remedied by proper preliminary training, and shall leave it to those whose work is the training of teachers to find the means and devise the methods for meeting these needs.

What a stride forward it is that we even think of training secondary teachers! But a few years ago such a suggestion would have consigned its maker to the limbo of hopeless cranks, and would have brought forth the most theatrical of guffaws from the army of secondary teachers, especially those young college graduates just blushing rosy red and standing very erect under the newly acquired title "professor." But the world moves, and from the crushed and discouraged mass of youth who every year drop out from secondary schools, we have gradually ceased to draw comforting reflections upon our own superiority and to boast of the marvelous selecting power of the secondary school. School authorities are demanding that teachers of the secondary grades be teachers as good and as earnest and as sympathetic as the teachers of the elementary grades.

In speaking of the sort of training needed by secondary teachers, I think we may accept without question as fundamental the proposition of Dean Jas. E. Russell of Teachers College, Columbia University, in his paper at the Columbus meeting of the Department of Superintendence, that secondary teachers need to be equipped with *general knowledge, special knowledge, professional knowledge* and *skill in teaching*. I shall simply mention some other needs which may perhaps be taken as amplification of Mr. Russell's four requirements.

My first will certainly come under the head of professional knowledge. The secondary teacher needs to be profoundly versed in the psychology of adolescence. In my judgment this knowledge on the part of the secondary teacher is even more important than the knowledge of the psychology of infancy on the part of the primary teacher. I do not need to enlarge upon this time of storm and stress through which every human being passes before arriving at manhood or womanhood and which so frequently overturns the promises and calculations of childhood. In general it is the period covered by the years of the secondary school. I am wholly confident that a large number, if not the greater part, of failures to succeed in school life at this period are due to the lack of understanding of the needs of youth by the secondary teachers.

The teachers need more than an academic knowledge of the literature of adolescence; they need training in the application of this knowledge to individual cases so that if brought face to face with a class of boys and girls just out of the grammar school, uneasy, embarrassed, awkward, frightened, full of vague ambitions and vaguer antipathies, sentimental, silly—it may be, they can detect individual needs and meet them with good sense and sympathy.

I asked a high-school principal recently what he considered the greatest need of high-school teachers, and he said, "sense." I asked him if he thought that could be secured through training, and he said, "partially." Now this is one of the ways. "Sense" includes knowledge and the ability to apply it to new conditions. The training school can give the prospective secondary teacher a knowledge of the general characteristics of the adolescent period, and proper observation and practice under suitable supervision can turn that knowledge into sense and make it possible for him to be the guide, counselor and friend of the young people. No secondary teacher can be called sensible who can not distinguish awkwardness from dullness, diffidence from sullenness, sensitiveness from haughtiness, uneven development from stupidity. The awkward, freckle-faced

boy uncertain whether he is a child or a man; the gawky, embarrassed girl, poetically described as "standing with reluctant feet where the brook and river meet, womanhood and childhood fleet" need something more than a teacher possessed of broad, general knowledge; academic-professional knowledge; special knowledge of the subjects to be taught; and even skill in imparting. I have known many teachers with all these characteristics who were very poor teachers for the high school simply because they had never been trained to cast a sympathetic eye over the boys and girls placed under their care or to exercise heart power.

These young people need a teacher friend who uses heart as well as head. I have known teachers really sympathetic in nature who held aloof from their pupils, treated them, if not with harshness, at least with rigid severity and confined their labors to the teaching of their subjects, although they had abundance of heart power to pour out in service of the heathen and even in Sunday school, simply because it had never occurred to them that it was part of their duty to use this power for the boys and girls in the high school. Hence, intending secondary teachers should be trained to a sympathetic touch, whose use often makes all the difference between life and death to the young people in school.

Second. Secondary teachers need to be trained to skill in managing classes of students. This really grows out of the former proposition, though I have in mind more particularly the dealing with these classes in the aggregate, applying the personal acquaintance and sympathy to the classroom management. This comes not merely from professional knowledge nor from any special knowledge; it is simply a broader use of "sense" and can only come through practice.

A professional training school for secondary teachers without a school for observation and practice similar to those provided for primary teachers in the ordinary normal school is at most an empryo and a hope. The first few years of employment practically settles the professional future of the young teacher,

and to furnish him with experience gained under wise guidance and supervision is to give him an enormous advantage. Hence, the second need is actual experience in class management, gained under supervision.

Third. Professional training should include much which at the first blush seems unnecessary. It should place great emphasis upon the whole scope of the field of education and in particular upon the curriculum, ideals, and methods of primary schools. One of the greatest difficulties which the student passing from department to department or from institution to institution has to meet is the change of standard. The most common complaint among teachers is that the pupils who come to them are not properly prepared. The grammar school teacher complains that the primary teacher has failed adequately to train the pupils; the high-school teachers complain that the grammar schools have failed to fit properly their students for the high school; the college teacher claims that the secondary schools are at fault. All along the line this compliant is continuous and continual, and most of it is rank nonsense. It is simply due to the ignorance of the teacher of the higher grade of the conditions prevailing in the lower and of what he ought to expect.

A change of educational environment means some temporary loss in all cases. The student is embarrassed by his surroundings, awed by the feeling that he belongs to a higher institution, and it takes a little time for him to become accustomed to the new environment so that he can do his best.

I am often surprised at the work presented to me by high-school teachers and received by them from pupils whose work in the grammar schools was thoroughly good. This poor work is due partly to this inevitable loss through change in environment and partly to the failure of the teachers to understand the children and hold them up to their best. Secondary teachers commonly set up standards of their own which are seldom standards of power, but more commonly standards of knowledge, and the classes which come to them always fall short of

this standard, in their judgment, because the tests applied at first do not produce satisfactory results. After a little while the pupils begin to improve, and to show the power they really have; then the secondary teacher comes forward and says, "See this great Babylon which I have built. I took these pupils, knowing nothing, from the grammar schools and now see what they can do." Meanwhile, a considerable number, frequently of the very best students, have been discouraged and frozen out and have left school.

The great loss in numbers during the first year of the high school continually reflects upon the "sense" of the high-school teachers. Training schools could do much to remedy this if they were to acquaint the intending secondary teachers with the real aims of elementary work and impress them with the fact that ability to meet continually new conditions rather than such special knowledge as the secondary teacher can test by an examination is the aim of the primary school and should be also the aim of the secondary school.

This knowledge, moreover, should not be merely theoretical. The intending secondary teachers should observe and practice in elementary schools in order to know the work that boys and girls do and the kind of people that they are.

Further, they should have a view of the whole scope of education in order that their own aims may be right. If they are connected with the public schools they should have a clear view of the economy of the public-school field, of what training citizens means and of the rather insignificant place in the whole training of life the particular specialty which they represent holds.

This leads to the fourth point: the training offered intending secondary teachers should make clear to them their place in the economy of education. This needs to be made particularly clear as our high-school teachers more and more become specialists. A danger besetting the specialist as a teacher is in the fact that the whole world revolves about his specialty. If he is a specialist in bugs, a bug becomes the centre of the uni-

verse, and no human life is complete without a knowledge of bugs. In university fields such exaggeration by the specialists of their own line of work may not only be excusable, it may be useful because their business is to train specialists; but in college work and especially in the work of secondary schools, it is not only absurd but dangerous.

The specialist in the secondary school must be first of all a teacher and a teacher of children and youth, then he may be as thorough a specialist as he can. If he understands the whole scope of education, if he knows what children have been receiving before they come to him, what they are to receive afterward, and is thus through his breadth of mind and his "sense" able to co-operate for the good of the child with the other teachers, he may be as ardent a specialist as he pleases and do no harm; but if he insists that his department is the one to receive all the time and attention, and if because of any unusual advantage, owing to personal vigor or standing in the school, he uses every opportunity to force more work out of the students for his department and for his glorification, then he is not a good teacher no matter how well he may understand the subject or how broad his general knowledge may be.

Beware of the high-school "professor," striving to substitute the teaching of things for the training of youth. There is no more dignified title than that of teacher, and this should be impressed upon the intending secondary teacher in the training school. He should understand that he is not to occupy a professor's chair or sit behind a desk and emit floods of knowledge concerning his specialty upon classes, but that he is to train children and youth for life and to co-operate with other teachers in so doing. As Mr. Russell pointed out in his paper, the high school is the product of forces from below and above, but the secondary teacher (or rather professor) has come from above. His whole notion of teaching is derived usually from a bad model which he observed in college, and he seeks to transfer that to his own field. In many cases he even, save the mark, becomes a lecturer, the very poorest of all types of the teacher.

Instead of arousing young people to activity, he would pour into them his own superior knowledge.

Let then the training schools see to it that the young teacher who comes out is modest, is impressed with the importance of his work as a teacher, realizes that he is co-operating with all the other forces which are educating the child, that he is even to be willing to sacrifice his specialty to the child's general good, that he is not a "professor" and never should want to be, that he should be the sympathetic friend and guide of children; and they will do us a greater service than even that indicated in Mr. Russell's able paper.

To recapitulate then: First, training schools should put special stress upon the knowledge of the psychology of adolescence and upon the application of that knowledge to individual cases. This should be done through observation and practice under supervision. Second, they should seek through the same means to impart that skill in managing classes effectively which we expect from the elementary teachers. Third, they should give knowledge of the scope of education, particularly of the work of the elementary schools, in order that the secondary teacher may measure by correct standards the young people coming to him; and fourth, they should impress upon the intending secondary teacher a sense of his place in the economy of the school system, and should send him out with enthusiasm and sympathy that he may be a guide and helper of youth and not merely a teacher of subjects.

MINUTES OF MEETINGS HELD AT MILWAUKEE

February 27 to March 1, 1905.

(THE PLANKINTON HOTEL.)

Monday, February 27.—Meeting called to order by the President, W. S. Jackman. Grant Karr was appointed Secretary *pro tem.*

Discussion of the education and training of secondary teachers, opened by R. P. Halleck, Louisville, Ky. Discussion was participated in by Sutton, Blair, Doty, L. H. Jones, Groszmann, Carroll, Hill, Kratz, Kirk, Dexter, Cary, Brooks.

Evening session called to order by the President at 8 p. m. and continued till 10 p. m. Full attendance. About one hundred present.

Tuesday, February 28.—Dinner in Colonial Hall, 6 to 8 p. m. This was an enjoyable affair. Two minute speeches by various members.

Wednesday, March 1.—The following business was transacted:

Motion to appoint Auditing Committee. Carried.

Motion to present report in year book. Carried.

Motion that the securing of contract for printing be referred to the President and Secretary of the Society. Carried.

Motion appropriating a sum not to exceed one hundred fifty dollars for postage, etc. Carried. [This was meant to cover the Secretary's expenses.]

Motion that question of incorporation be referred to President and Executive Committee with power to act. Carried.

Motion to become allied with the American Association for the Advancement of Science. Deferred to one year from date.

Discussion as to topics to be taken up, Halleck, Brown, Blair.

The following new active members were elected:

William C. Bagley, State Normal College, Dillon, Mont.

Walter H. Cheever, State Normal School, Milwaukee, Wis.

Alexander B. Coffey, University of Wisconsin, Madison, Wis.

Flora J. Cooke, Francis W. Parker School, Chicago, Ill.

Frank W. Cooley, superintendent of schools, Evansville, Ind.

R. B. Cousins, state superintendent public instruction, Austin, Texas.

F. E. Doty, state high school inspector, Madison, Wis.

Gertrude Edmund, Lowell Training School, Lowell, Mass.

J. M. Frost, superintendent of schools, Muskegon, Mich.

Wilbur F. Gordy, superintendent of schools, Springfield, Mass.

Cora M. Hamilton, State Normal School, Macomb, Ill.

Florence Holbrook, Forestville School, Chicago, Ill.

Paul W. Horn, superintendent of schools, Houston, Tex.

Walter Ballou Jacobs, Brown University, Providence, R. I.

Calvin N. Kendall, superintendent of schools, Indianapolis, Ind.

Arthur N. McCallum, superintendent of schools, Austin, Texas.

G. R. Muller, superintendent of schools, Binghamton, N. Y.

George D. Pickels, State Normal School, Natchitoches, La.

Rosalie Pollock, supervisor primary grades, Salt Lake City, Utah.

Homer H. Seerley, president State Normal School, Cedar Falls, Iowa.

Gerard T. Smith, superintendent of schools, Moline, Ill.

William E. Stark, Ethical Culture School, New York, N. Y.

Henry Suzzallo, Teachers College, New York, N. Y.

J. K. Stableton, superintendent of schools, Bloomington, Ill.

Edward Thorndike, Columbia University, New York, N. Y.

Albert W. Tressler, University of Wisconsin, Madison, Wis.

Dwight B. Waldo, State Normal School, Kalamazoo, Mich.

Report of Nominating Committee: For President, E. G. Dexter, University of Illinois; for Secretary-treasurer, Manfred J. Holmes, Normal, Ill.; for members of the Executive Committee, C. P. Cary, Madison, Wis., and J. H. Van Sickle, Baltimore, Md.

Moved by Mr. Blair that a committee be appointed to report on new name for the Society. Committee appointed were H. E. Kratz, W. S. Sutton, and F. G. Blair.

The program had been arranged to receive ten-minute reports from the following members:

M. P. E. Groszmann, Plainfield, N. J.—The matter of electives for adolescents.

Elmer W. Walker, State School for the Deaf, Delavan, Wis.—Observations and conclusions relative to imagination among the deaf.

John R. Kirk, Kirksville, Mo.—Library courses in normal schools.

W. T. Carrington, Jefferson City, Mo.—Industrial education in rural communities.

J. Stanley Brown, Joliet, Ill.—The six-year high-school course.

Before these reports had all been given Mr. J. S. Brown moved to have the remainder deferred. Carried.

The remainder of the time of this meeting was spent in the discussion of the Yearbook, chiefly upon that part referring to the relation of practice to the preparation of secondary teachers, J. S. Brown, Darling, McKenny, Farrington, VanSickle, Karr, Blair, Seerley, and others participating.

Meeting adjourned *sine die* at 6 p. m., peace and harmony prevailing.

GRANT KARR, *Secretary pro tem.*,
State Normal School, Oswego, N. Y.

REPORT OF THE SECRETARY

Since becoming Secretary I have tried in various ways to locate the body and discover the spirit of the National Society for the Scientific Study of Education. It is clear that there is a body of capable and earnest men and women in our country who believe in the Society because it can become a valuable agency in several important respects: (1) in promoting the scientific spirit and method in the study of educational problems; (2) in promoting the spirit and securing the values of co-operative fellowship; (3) in securing the stimulating and corrective effects of vigorous and honest but friendly exchange of opinion from different points of view; (4) in publishing from time to time the results of scientific study and views of the status of educational opinion and practice; and (5) in bringing into personal acquaintance a goodly number of the men and women who are working to make individual life and institutions conform to the best ideals that characterize American life.

But it will take time for the Society to reach such standards of effectiveness. It ought to be clear that we are all working on parts or aspects of a great common problem, each with a more or less limited point of view and in his own way; that mutual understanding and appreciation of each other's points of view will illuminate the field for more effective attack of one's own problems, and more intelligent co-operation; that progress in all science and art is a social product, and can best be promoted when those concerned know the results of past experience and the present status and outlook. We need greater solidarity of spirit and organization; and greater mutual intelligence with regard to the problems, the conditions, the methods, and the results of the work of our fellow members. The Yearbook should be made a more effective organ in deter-

mining the character of the Society. Out of the entire membership there ought always to be a few individuals and committees who have work maturing so that there will be plenty of first-class material for the Yearbook some months in advance of the time for publication. Since one function of the Society seems to be the propagation of spirit and ideas, we ought to have a permanent associate membership of several hundred who would be regular readers of the Yearbook.

Can and will *teachers* sustain a society that is dominated by the exactions of scientific spirit and method? Time has not yet proved this in our country at least; but why should not this Society meet its opportunity and acquire such scientific character that the conferring of its membership will be more than a compliment—even an honor?

In harmony with the above conception of what our society ought to be, and the conviction of certain present needs, I have prepared a brief report under the following headings:

1. *What specific lines of study are members now engaged upon?* It is not expected that each member will have at all times a definitely formulated problem. I suppose, too, that those who replied to my question represent a minority of them that are now engaged upon specific, definite problems. It is hoped that a knowledge of what is going on within the membership will lead to correspondence between members who may wish to know more about conditions, method, and results of some of these specific lines of work and study.

2. *How can our meetings be conducted to yield a maximum of value?* There is a rather general opinion that many educational meetings do not yield as great value as they ought and can yield. It ought to be impossible to have such opinion apply to any society for "scientific study." It has seemed to me best to print the replies returned and let the members of the Society draw their own conclusions.

3. *What is meant by "scientific study of education?"* I have printed the replies to this question also, because in addition to their being of interest and practical value to the Society,

they have a certain historical value as revealing the present status of opinion as to what constitutes a scientific study of education. The variety of the conception is significant.

An extended exposition of the meaning of this phrase by one of the ablest scientific students in the Society will appear in the February (1906) issue of the Yearbook.

SPECIFIC LINES OF STUDY MEMBERS ARE ENGAGED UPON

W. C. BAGLEY, State Normal College, Dillon, Mont.—Ideals as factors in the educational process.

EZRA W. BENEDICT, superintendent of schools, Warrensburgh, N. Y.—The correct sequence of work, in detail, in the grades of the public schools; the correct sequence of the various branches of the curriculum and of the various divisions and subdivisions of each branch.

STRATTON D. BROOKS, supervisor of city schools, Boston, Mass.—Specific industrial education in elementary schools.

J. STANLEY BROWN, superintendent of Township High School, Joliet, Ill.—Six-year course of study for both high and elementary schools.

SARAH C. BROOKS, principal Teachers' Training School, Baltimore, Md.—The problem of the city training school. Self-activity as the fundamental law of development, and its possible manifestations. Next year this work will be put into permanent form, not for scholars, but for mothers and teachers. A set of school readers.

WM. H. BURNHAM, Clark University, Worcester, Mass.—The field of school hygiene, particularly upon matters relating to the hygiene of instruction and the hygiene of the school child.

F. W. DARLING, Chicago Normal School.—A series of school geographies.

LIDA B. EARHART, State Normal School, Whitewater, Wis.—My problem the last four years has been the preparation of courses of study for our training department. With the co-operation of other members of the faculty, I have tried to produce a manual which shall embody the results of recent movements in various lines of education; to make a course of study suited to the children, to our environment, and that shall be a guide and help to the pupil teachers who use it. We have tried to grade it carefully, and where practicable and wise, to correlate the various parts. It is not perfect but it is workable and helpful.

J. M. FROST, superintendent of schools, Muskegan, Mich.—Manual training in the grades.

CORA M. HAMILTON, State Normal School, Macomb, Ill.—The effective relation of the training school to the normal school.

EDGAR L. HEWETT, U. S. National Museum, Washington, D. C.—Ethnic factors in education.

REUBEN POST HALLECK, principal Male High School, Louisville, Ky.—The neural basis of ethics.

JOHN A. KEITH, State Normal School, DeKalb, Ill.—How organize and present psychological truth in a way that shall prove helpful and stimulating to teachers who have not had the opportunity to study psychology. The plan is to find out what difficulties such teachers encounter, group these in such a way as to reveal generic difficulties, and then develop psychological truth that applies to the generic difficulty.

The relation of motor activity to the appearance and development of ideas, from the viewpoint of its relation to schoolroom method.

H. E. KRATZ, superintendent of schools, Calumet, Mich.—A book under way—Studies and Observations in the School Room.

ISABEL LAWRENCE, State Normal School, St. Cloud, Minn.—The social life of children and the early adolescent. This is a woman's problem and the mothers in our state have joined the teachers in an effort to get more light on what should be done.

HERMAN T. LUKENS, State Normal School, California, Pa.—The Fifth School Year, a book in the "Series of School Years," edited by Dr. Noss. Each year is a separate book.

G. W. A. LUCKEY, University of Nebraska, Lincoln, Neb.—The certification of teachers. The school agency for teachers.

FRANK A. MANNY, Ethical Culture School, New York.—Discipline in its larger aspects, somewhat of a study of school ethics.

The relation of productive manual industry to education and especially to the school.

FRANK M. MCMURRY, Teachers College, Columbia University.—Right things for study and teaching children how to study.

M. V. O'SHEA, University of Wisconsin.—Several studies going forward dealing with aspects of mental development; a volume in the press treating of motor development; another study on social impulses and social development is about complete. "The subject in which I am most actively interested now, however, is linguistic development. I have been gathering data on this subject for the last ten years and am now organizing and interpreting these."

G. D. PICKELS, State Normal School, Natchitoches, La.—General thesis, education is adaptation to environment, and may be treated as a process and as a result. It changes both as to matter and method, whenever environment changes.

A volume, The Principles of Teaching, is well advanced.

STUART H. ROWE, Brooklyn Training School for Teachers, Brooklyn, N. Y.—How applications of the "formal steps" to actual teaching are to be reconciled with spontaneity and lack of formalism in instruction.

MYRON T. SCUDDER, State Normal School, New Paltz, N. Y.—Student participation in school government. A school city has been in active operation in the New Paltz Normal School for five and a half years.

H. H. SEERLEY, State Normal School, Cedar Falls, Ia.—Normal school organization and management.

DAVID E. SMITH, Columbia University.—The history of arithmetic.

DAVID S. SNEDDEN, Leland Stanford Junior University, Stanford University, Calif.—A theory of pedagogical (as opposed to logical) method of organizing the subject-matter of the elementary school.

The problem of social education.

Purposes and methods in secondary education.

Foundations of method in the elementary school subjects.

EDWIN D. STARBUCK, Earlham College, Richmond, Ind.—An experimental study on the mental development of children.

The effect of kindergarten instruction on the later development of children.

The growth of the idea of God.

The content of religion.

EDWARD L. THORNDIKE, Columbia University.—Heredity; mental relationships; animal psychology; school expenditures; the causes of leaving school, etc.

CHARLES H. THURBER, Boston, Mass.—The social evolution of the child.

E. W. WALKER, superintendent of School for the Deaf, Delavan, Wis.—A study of imagination, especially among the deaf.

SARAH J. WALTER, Hampton Institute, Hampton, Va.—Training of Hampton students to go out as teachers of the respective races represented.

DWIGHT B. WALDO, State Normal School, Kalamazoo, Mich.—Course of study for the elementary school.

L. E. WOLFE, superintendent of schools, San Antonio, Texas.—The public school system and solidarity of society.

CONDUCT OF MEETINGS

EZRA W. BENEDICT.—It should be understood that most of the discussion of a given subject is to be by those only who have carefully prepared themselves to discuss a particular phase or phases thereof. A limited number of exceptions should be allowed; but these, as well as the chief participants, should be confined within a strict time limit. To enable the Secretary to arrange a satisfactory program, chief participants should notify him before the meeting, of their intentions to enter the main discussion. If they should distribute at the time of the discussion, printed or typewritten slips outlining their discussion, no doubt it would contribute to a more thorough understanding of the same.

No discussion of members' special topics should be permitted before the Society until they have submitted theses to the Executive Committee and their theses have received the approval of a majority of that committee.

STRATTON D. BROOKS.—Five minute limit on specific questions.

J. STANLEY BROWN.—I think a brief paper containing a brief, pointed summary forms the best basis for discussion. Chairman ought to hold speakers to points under discussion.

SARAH C. BROOKS.—The central theme or striking feature of a paper should be considered, the members held to that one theme until the juice

is extracted, at least. .... It seems to me that we should "speak to the question" and have that question worth while when we drop our work and go hundreds of miles to attend a meeting.

WM. H. BURNHAM.—I think that in the educational meetings of our Society it would be desirable always to have a paper or report presenting a solid nucleus of important facts and that in order to be profitable the discussions should concern such papers.

EDGAR L. HEWETT.—After the usage of the American Association for the Advancement of Science.

REUBEN POST HALLECK.—The chairman should declare "out of order" all discussion which is foreign to the paper or point discussed. It should be borne in mind that the discussion at the meetings is the very least important work of the Society.

JOHN A. KEITH.—The writers of the papers should be present and have their papers reduced to the form of definite theses which they stand ready to defend. .... Certain persons should be asked to speak to certain theses and then the discussion should be open to all.

H. E. KRATZ.—Discussions should be held down to the subject under investigation.

FRANK A. MANNY.—In answer to question four, it seems to me that the Society has become so large that it is difficult to carry on discussion. .. Certainly no person should be permitted to present papers of the nature of whose work we are not certain. The material they furnish may be valuable but it certainly should be passed upon first by some responsible person.

F. M. MCMURRY.—Pre-supposing a printed article as the basis of discussion, I would suggest (a) that the chairman, or some other person appointed, furnish a carefully prepared set of theses drawn from the printed article; (b) that these theses first be considered by the members of the Society present to see if they contain all the topics wanted for discussion. Different additions could in this way be agreed upon. (c) The theses should then be taken up in order and each one be discussed without reference to the others for the time being. The chairman should either control the discussion, summarizing now and then, calling people to order, abridging discussion, and so on, as seems best; or he should appoint some one to do it, this person not being the writer of the article. The latter would have enough to do simply meeting various objections, etc.

M. V. O'SHEA.—I have often expressed my views to the effect that our Society should be limited to a relatively small number of persons, ... and then definite problems should be set for discussion at each meeting, every member having freedom to take a hand whenever he chose. The thing likely to prove most disadvantageous in our work is the presence of a general audience which is certain to prevent close and critical discussion. A general audience always leads to general and emotional discussions.

DAVID E. SMITH.—The world seems to have evolved, thus far, nothing better than a set paper, with someone to represent the other side of the argument advanced by the speaker, followed by questions.

DAVID S. SNEDDEN.—Publication of study, as now; appointment, in advance, of certain leaders of discussion, who will read their main points; voluntary discussion, in which the speaker will be urged first to clearly state the point, thesis, or principle which he intends to discuss; and in some cases, the privilege of the principal leader of replying to each discussion as it is up.

L. E. WOLFE.—It has often seemed to me that we could secure better results in our discussions if the discussions were confined more rigidly to a given point at a given time.

WHAT IS MEANT BY A "SCIENTIFIC STUDY OF EDUCATION"?

EZRA W. BENEDICT.—Scientific study of any subject is, according to my conception, a careful examination, uninfluenced by any previously conceived bias or prejudice on the part of the examiner, of the facts, principles and laws appertaining to that subject, the purpose being to discover the truth about it. .... For the scientific study of an educational problem, the first thing in order is the statement of the problem, in brief and in full. Consideration of all the conditions likely to affect the solution of the problem must follow. The historical aspects of the question cannot be neglected, including attention to the efforts that have been made by others to solve the problem. All education, in the sense in which we use the term, has to do, in the last analysis, with changes in nervous matter and its related mind. Hence any method of studying an educational problem must be deemed defective and not strictly scientific which fails to take into account the laws of mind and nervous matter as furnishing the ultimate basis for the settlement of every such problem.

J. STANLEY BROWN.—(1) A study of some problem so intensively as to reveal greatest weakness in current treatment. (2) Experimentation with a view to discovering a better treatment of the problem. (3) Comparison of results. (4) Abstraction of needless things in solution of problem. (5) Deduction including only essential things.

SARAH C. BROOKS.—I don't know how to answer your question about scientific study, unless it is the inductive tendency of grappling a subject and considering it in every available light, being content with limited results from time to time, but never letting go until light finally dawns. I lose time in the search for books, but that may be due to individual limitations. Then there is the matter of patience over the time required for elaboration, and of how to obtain the required time.

W. H. BURNHAM.—Perhaps my paper in the Educational Review, [vol. 26, pp. 236-245], "Education as a University Subject," will give an idea of my answer to this question.

LIDA B. EARHART.—According to my conception a "scientific study of education" is one which seeks to base education upon sound philosophy and psychology; which seeks to find what contributions other sciences have yielded or may be made to yield toward solving the problems of the schoolroom; which investigates pedagogical procedure not only according to

general laws, but according as it must be determined by the nature of individual minds and the character of the subject-matter.

EDGAR L. HEWETT.—Education is not a "science" in the sense in which that term is ordinarily used. It derives its data from numerous contributory sciences, as anthropology, sociology, psychology, etc. It might be considered a "science of sciences;" but this is open to controversy. Yet clearly pedagogy must deal constantly and should deal intelligently with problems which root in the sciences above named. This seems to me to point the way to a "scientific study of education." When we select the term "scientific" to attach to our Society, we imply *investigation, research.* Accordingly the following classes of problems suggest themselves to me as the legitimate work of our Society.

1. Investigations on the data of contributory sciences with reference to their bearing upon education.

2. Investigations touching the application of accepted facts of these sciences in educational practice.

3. Original research in the contributory sciences with a view to deriving facts bearing upon education.

It has always seemed to me that the investigation of such problems in the scientific spirit by scientific method might go far toward elevating education above the controversial plane.

REUBEN POST HALLECK.—The term "scientific" cannot be used in educational matters in the same way as in a laboratory. Mental effort of greater or less intensity can not be weighed with as much certainty as sugar in a grocery. This Society is expected to perform inductions and draw conclusions from actual experience, not from introspection. Inductions performed from experiments on different molecules of hydrogen and iron will have a certainty that educators can not hope for, since no two classes of pupils and no two educators can ever be the same in the sense that different molecules of hydrogen are the same. Many a scientist would throw up his hands in despair if he was compelled to draw certain conclusions from such variable factors. At the same time, concerted effort among educators ought to disprove many prevalent errors in educational induction.

JOHN A. KEITH.—A scientific study of education is not essentially different from any other scientific study. There must, first of all, be "the widest possible appeal to fact" either as observation or experiment, or both. The facts thus obtained must be explained in terms of their causal connections (by comparison, classification, and analysis), and these causal relations must be synthesized into laws or principles, which have a logical connection. This framework or these hypotheses must be tested by another appeal to fact, which appeal must prove to be a verification of the hypotheses.

The peculiar difficulties are: (a) the framing of a series of problems in such a definite way that the scientific method can be employed; and even if these were framed, (b) educational men are in no position to make

any extensive experiments and at the same time retain their positions, for children are not as insignificant as are plants or animals; (c) superintendents and others are usually too busy to make (especially to record) accurate observations that bear any relation to the pressing problems of education; and (d) the most fatal danger of all, "specialists" approach their work with preconceived theories which they wish to verify.

Education is a distinctly social affair, and its science is not exactly like that of the mathematical or of the natural sciences. Just as people do not want all homes exactly alike, just as they have different ideas about the best methods of industry, about the function of the state and of the church; just so, and for the same reasons, do people differ regarding fundamentals in education. This eternal differing is the source of progress and if one holds to the notion that a science of education that will eternally fix things is either possible or desirable, he is, in my opinion, on the wrong road. Each generation, each community, each teacher, must work it out. Just as soon as the leaders settle a point and others unthinkingly follow their plans, the point is unsettled. It is, after all, the "hungering and thirsting after righteousness," and not the blind following of the commandments, that has the promise in the Beatitudes.

It is possible and desirable to settle some things by a strictly scientific procedure—by observation and experiment, deduction of hypothesis, and verification—all quantitatively. The things that can be thus definitely settled relate chiefly to the mechanical phases of education and to the mechanical aspects of individual activity. The other sort of scientific study, the study that seeks to find out the truth and with this truth to make men better, is not quantitative and is not ultimately definitive. It leads but to a viewpoint apparently in harmony with ideals and existing facts. But both the ideals and the seeming facts change, and hence each man must, in a way, work it out for himself; and so must each community and each generation.

H. E. KRATZ.—"Scientific study" is rather vague. I must admit Dr. Halleck's direction of the discussion in the Atlanta meeting was looking that way. That report from one member in the Milwaukee meeting, concerning some phases of the thinking of blind and deaf children seemed to me another feature of "scientific study."

FRANK A. MANNY.—The college teachers come nearer to the scientific side of education in a narrower sense. I do not believe, however, that those of less pedagogical training should be discouraged from considering that they are making contributions in this field. It is very hard in an organization which includes workers all the way from the superficially descriptive to an intensively explanatory view to appreciate the value of each other's work.

F. M. MCMURRY.—By scientific method applied to education, I understand the acceptance of some specific problem or hypothesis as the topic to be investigated. Then such a use of data and logic as will produce conclusions that are convincing to outsiders. The two sources of the data may either be books or children.

M. V. O'SHEA.—I find it impossible in a brief space to give any satisfactory statement of my conception of scientific method in education. The first part of my Education as Adjustment is devoted to a treatment of this subject. In brief, scientific method consists in applying some definitely measured standard to the subject you are studying. In education this is extremely difficult, because every problem is so complex, and there are so many factors operating to produce any effect, that we are not likely to get at each one and measure it precisely. This is, however, the work which our scientific society should undertake. I have suggested methods of accomplishing this in Chapters II and III of the book to which I have already referred.

G. D. PICKELS.—Method in the most general sense, involves accumulation of data touching the problem in hand, a careful analysis of the accumulated mass in the light of some preconceived hypothesis, and finally, synthesis of the results of the analysis into a body of co-ordinated truths. The working hypothesis must be based upon such facts as the present state of knowledge affords. Data must be sought in history, in the mental life of children and adults, in current educational practice, in the attitude of the popular mind toward the training of children and the work of the schools, and in the conditions of life and the needs of the individual and the race. No rules of practical value can be given for finding data or analyzing them when found; only the genius of the thinker can determine the mode of procedure. When a doctrine has been formulated, it is necessary to determine its limitations, which lie in other doctrines of greater or less comprehension, and in the conditions under which the formula must be applied. It is finally necessary to test it in practice, in order to ascertain its possibilities for good and evil, according to the manner in which it is applied in practice, and the degree of emphasis laid upon it. This requires patience, and careful comparison of statistical facts. A generation or more may be barely requisite to prove the worth of a given body of doctrine. .... Every possible theoretical test should be made before there is resort to extensive and enforced use in the schools. Conservatism, which admits improvements cautiously after the fullest proof, should mark every recommendation of the Society.

STUART H. ROWE.—A scientific study of education implies a rational classification of educational phenomena. It implies, therefore, (1) a study of philosophy, psychology, ethics, sociology, physiology and hygiene; (2) the organization of applications of these sciences in the concepts and relationships fundamental to adjustments of the child to his environments. It also implies the theoretical deducing of applications to individual conditions with careful weighing of the effects of conflicting possibilities and the final trial experimentally; but it also includes reasonable experimentation where the original suggestion is due not so much to any conscious deductions from pedagogical theory as to a subconscious or intuitive judgment of the possible efficiency of certain devices or methods, the pedagogical status of which may be more difficult to determine than their efficiency.

MYRON T. SCUDDER.—(1) Gathering data on some given point, (a) by careful, accurate observation, experiment, etc.; (b) or accepting the results of similar work on the part of others who are well known, experienced, careful and competent investigators. (2) Drawing inferences based on the above, subjecting them continually to the test of experience and reviewing them in the light of further research, data, etc. Occasionally hypotheses may be ventured upon, showing possible direction of future research. (3) Stating these results clearly and concisely without bias.

DAVID E. SMITH.—A good balancing of (1) the historical phase. How came this to be as it is? (2) The psychological phase. When is the learner ready for these various subjects, and how are they best presented? (3) The question of utility. What use is the learner to make of this thing? In the broadest sense this includes the culture values, and hence might be called educational values.

DAVID S. SNEDDEN.—Very hard to give. Any systematic and careful study ought to be called scientific, provided the investigator can justify his conclusions. Education may suffer from the over application of methods more adapted to concrete sciences, just as it has suffered from too much "dialectic." Let us not worry too much about method, but seek rather to formulate aims in more specific terms than is now the case. We need much work in this direction, and in the direction of agreeing upon terminology. Why not have a committee on terminology which might annually issue a report on suggested definitions, which might be generally accepted when a majority of members agreed?

EDWIN D. STARBUCK.—(a) Experimental methods should largely supersede questionnaire methods. (b) The methods of description and analysis are legitimate as science but they should dovetail more intimately with the sciences like psychology, biology, sociology, and others, which are closely related to education.

JOSEPH S. TAYLOR.—Science according to my conception is verifiable knowledge, and a scientific method of studying education is a method of observation or experiment conducted in such a way that any student in any part of the world may repeat the observation or experiment, and either confirm or refute the conclusion drawn by a previous student.

So far as possible, in order to be scientific, a study of an educational problem must be quantitative in character. Data should be gathered in such a way as to insure absolute accuracy, and there should be enough of them to justify a broad conclusion.

E. W. WALKER.—I understand that "scientific study of education" means a study of the experiences or processes by which the mind develops. This will naturally be supplemented by the organization of a system which shall in its best form give to the child these experiences and processes when they are once determined.

SARAH J. WALTER.—A special study of special problems by people, (practical workers) who have the time or can take the time to visit, study, and report upon a large number of typical cases. Lastly, a comparative study. Some of the work has been most unsatisfactory because too limited in range.

SOME RECOMMENDATIONS.

In considering the present needs of the Society and the outlook for its greater effectiveness, I am led to make the following suggestions. These may not be the wisest nor the most necessary. Others may be substituted or added. The important thing, however, is that we take such measures as will give the Society greater definiteness and permanence of character, continuity of policy, and effectiveness of work.

The first decade of the Society's history closes with this year. During this time it has stimulated much thought, focusing it upon some of the most vital theoretical and practical educational problems of the period; while at the same time some valuable contributions, both theoretical and practical, have been made to the literature of education. If during the next ten years the Society should make a rigorous study of a few of the great fundamental principles of education, testing and modifying current practice in the light of these principles and publishing results in the Yearbook, it would thereby demonstrate its reason for existing. The synthetic outcome would be a more or less well-organized view of the data of the science of education. These data would furnish standards for testing current practice in instruction, organization and management, administration, and legislation. The suggestions are—

1. That a representative committee be appointed to study and report for the Yearbook what is considered to constitute the best course of academic and professional training for secondary teachers. This is necessary as a logical sequence of the study of the education and training of secondary teachers as presented in the Fourth Yearbook, Part I.

2. That a committee or a member be appointed to study and report how superintendents or principals of high schools can most effectively continue the professional preparation of their teachers. This committee is called for because the post-school preparation is the most important part of a teacher's training, but is too generally neglected.

3. That a committee be appointed to study and report on the data of the science of education as derived from (1) philosophy, (2) psychology, (3) physiology, (4) sociology, (5) ethics, etc. There are many reasons why the National Society should gather up and present in a well-organized whole these data. (This comes from Mr. F. G. Blair.)

4. Two members have suggested that a permanent committee on terminology be selected to report on usage and make recommendations from time to time. The distracting, confusing, and immature state of the nomenclature of psychology and pedagogy entirely justifies such a committee.

5. That representative members or committees be appointed to study and report on the best course of study for the grades in (1) arithmetic, (2) language, (3) geography, and (4) manual training and domestic science.

6. That a committee be appointed to study and set forth the facts concerning the culture or disciplinary value of vocational subjects, and if the facts warrant it, present in cogent terms the reasons for recognizing work done in these lines as college-entrance qualification.

7. That our constitution and by-laws be revised to date.

M. J. HOLMES, *Secretary.*